International Journal of Information, Business and Management

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International Journal of Information, Business and Management

CONTENTS

International Journal of Information, Business and Management

The Impact of Political Advertising through Social Networking Sites on Egyptians' Political Orientations and Choices

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Abstract

This paper examines the influence of political advertising through social networking sites on Egyptians' political orientations and choices. The objective of this paper is to determine how Egyptians' social networking sites users are interested in political promoting campaigns and how they deal with such campaigns. Also the paper measures the impact of these campaigns in influencing the current political events, the individuals' political choices and orientations, and the extent to which they can rely on such campaigns.

A structured questionnaire has been developed and posted for two weeks on social networking sites; only 397 questionnaires were valid for statistical analysis. Research findings showed that Egyptians are interested in the political promoting campaigns through social networking sites, Egyptians believe that political promoting campaigns have a significant effect on the political situation, and Egyptians deal positively with the political promoting campaigns. Furthermore the political promoting campaigns through social networking sites have a low effect on Egyptians' political orientations and choices. Finally, Egyptians believe that political promoting campaigns through social networking sites have low level of credibility. These results can provide insights for Egyptian politicians to use social networking sites as an essential promoting channel to achieve the appropriate change in Egyptians' political orientations and beliefs.

Keywords: *Political Marketing, Political Advertising, Political Promoting Campaigns, Social Networking Sites, Egypt.*

1- Introduction

The ways social media are changing communication have received a lot of media attention in the past few years. Social media tools are said to give people the ability to connect and unite in a crisis, raise awareness of an issue worldwide, and usurp authoritarian governments. These tools can be used to quickly get information, such as, to locate a nearby hospital in case of emergencies. The increased awareness brought on by social media can help raise a significant amount of money for a cause. For the first time, everyone can be a journalist.

As countries around the world discover the influence of social media, citizens have begun to use its power to improve their lives; one such country, Egypt, has created a new standard for social reform through social media and networking. Egypt possesses a long and rich history, a cohesive kingdom from around

3200 B.C. Over thousands of years, various nations ruled Egypt; in 1952, it finally gained independence from outside rulers, ousting the British-backed monarchy. Since then Egypt has been a republic, and until the revolution of 2011, was ruled by President Hosni Mubarak who had attempted to reform Egypt's slow economy by decentralizing it. However, that didn't work, and Egypt's citizens remain poor, 20 percent living below poverty level. The country ranks 21st in the world for Internet users, with just over 20 million users in 2009 out of a population of 83 million or roughly one quarter (The World Factbook, 2011). This is surprising if one considers the Internet a vital instrument in the Egyptian revolt.

Social media and networking have come to define a new generation of communication and have created a platform that possesses limitless abilities to connect, share, and explore our world. Social media is content created and shared by individuals on the web using available websites which allow members of the site to create and display their photos, thoughts, and videos. Social media allows people to share content with a select group or with everyone. Social media is a way for communicating with one or more people at the same time. These sites allow people to communicate in real-time; thereby effectively developing democracy. This is because, social media sites give people a voice to express their opinions about government, television, political leaders, and any other issues of concern. Sites like Twitter, Facebook, and YouTube allow power to be shifted to people. They create two-way communication between individuals or small groups and the general public.

Social media is not a new idea, however; people have used technology for decades to communicate, mobilize voters for political participation and, "while it has only recently become part of mainstream culture and the business world, people have been using digital media for networking, socializing and information gathering – almost exactly like now – for over 30 years" (Borders, 2009).

Political marketing bears a number of similarities to the marketing of goods and services. Consumers choose among brands just as voters choose among candidates or parties. Consumers display brand preferences (party loyalty and party identification) and are exposed to mass media (campaign advertising) and direct sales ("get-out-the vote" efforts), which may rely on various emotional appeals and social influences. Candidates, like firms, choose product positions (policy positions), determine promotional mix (allocate campaign resources), and conduct market research (polling). These decisions need to account for and anticipate competitors' actions, implying that candidates participate in games of strategic interaction.

However, there are also important differences. First, unlike consumers who can usually purchase their preferred product, the winner-take-all nature of elections ensures that in almost every election, a significant proportion of voters choose a candidate who is not elected. Second, similar to consumer choices, political attitudes and choices are inherently determined in a social context, but the election process (e.g., its winner-take-all nature) provides voters a significant incentive to influence others and thus dramatically magnify social considerations compared to many product and service choices. Third, there is a distinct temporal rhythm to political marketing, with most elections (purchase opportunities)

occurring every 2 to 4 years, each with a clear endpoint. Fourth, while firms probably prefer to maximize the sum of discounted profits, a political candidate's objective function is murkier (e.g., a candidate might participate in a race with little expectation of winning in order to build a reputation that could serve her in the future toward non-political goals).

Recently, research opportunities in political marketing have attracted a growing number of scholars across the field. The central role of competition naturally attracts those academics skilled in applying analytical and empirical modeling. The importance of communications and persuasion attracts those who seek to bridge behavioral work in consumer choice to political settings.

Political campaigns are some of the most expensive marketing efforts in existence today (The Economist 2010). Yet, research in marketing and political science is inconclusive on a number of fundamental questions about the marketing of political candidates: How does advertising affect voters (Lau et al. 1999)? How should candidates allocate marketing budgets across campaign activities (Bartels 1988; Gerber and Green 2000)? How should candidates choose policy positions (Adams et al. 2005)? These questions fall at the intersection of marketing and political science. Despite early efforts to draw attention to such questions (Rothschild 1978), marketing scholars have largely ignored them; making this area a fertile ground for research.

The goal of this paper is to determine how Egyptians' social networking sites users are interested in political promoting campaigns and how they deal with such campaigns. Also the paper measures the impact of these campaigns in influencing the current political events, the individuals' political choices and orientations, and the extent to which they can rely on such campaigns.

2- Literature Review

2.1. Political Marketing

Harrop (1990) perceives political marketing not just about political advertising, party political broadcasts and electoral speeches, but about covering the whole area of party positioning in the electoral market. Kavanagh (1995) sees political marketing as electioneering, i.e. as a set of strategies and tools to trace and study public opinion before and during an election campaign in order to develop campaign communications and to assess their impact. A similar view is expressed by Scammell (1995).

Maarek (1995) conceptualizes political marketing as, "a complex process, the outcome of a more global effort implicating all the factors of the politician's political communication", and emphasizes that, "political marketing' is the general method of 'political communication', one of its means". He considers the introduction of marketing in politics as an outcome of "the elaboration of a policy of political communication…a global strategy of design, rationalization and conveyance of modern political communication". One terminological inconsistency should be noted though. In the aforementioned figure, Maarek appears to equate a company's consumer products with a political party's political

communications. Such a parallel cannot be drawn, as a party's "product" consists not of its political communications but of; a) its ideological platform and its set of policy proposals, b) the party leader, the candidates and party officials and c) party members in general.

In Maarek's view, political marketing has become an integral and vital component of political communication. In his words: "Political communication…encompasses the entire marketing process, from preliminary market study to testing and targeting". It should be noted that Maarek admits that the main areas of application of political marketing are image-making campaigns and election campaigns.

Lock and Harris (1996) point out that "political marketing is concerned with communicating with party members, media and prospective sources of funding as well as the electorate", while Wring (1997) defines political marketing as "the party or candidate's use of opinion research and environmental analysis to produce and promote a competitive offering which will help realize organizational aims and satisfy groups of electors in exchange for their votes".

O' Cass (1996) argues that the use of marketing "offers political parties the ability to address diverse voter concerns and needs through marketing analyses, planning, implementation and control of political and electoral campaigns". Taking this one step forward he argues that "the central purpose of political marketing is to enable political parties and voters to make the most appropriate and satisfactory decisions". O' Cass (1996) uses an exchange model to define political marketing. According to him, when voters cast their votes, a transaction takes place. In return for their votes, the party/candidate offers better government and policies after election. This way, O' Cass argues that marketing can be applied to political processes as it is specifically interested in how these transactions are created, stimulated and valued. Lock and Harris (1996), commenting on the exchange model, argue that it has "a great deal to offer as a working definition of political marketing". They note though that, as it is, the exchange definition of political marketing is broad enough to include "everything that is conventionally regarded as political science".

Scammell (1999) notes that, due to the rapid expansion and the diversity of this field of science, there is still no consensus on the definition of political marketing. In her view, political marketing shares with history, the desire to explain political leaders' behavior; with political science, the desire to understand the political processes; and with political communication, an interest in the art of persuasion.

2.2. Political Advertising
Political advertising includes all means and technologies required and necessary to attract public opinion, and therefore the votes of the voters, as well as providing appropriate causes that are chosen according to several personal and objective criteria, thus creating an appealing and ideal image for a political candidate's, while showing and highlighting the negative aspects of the competing candidates in front of

public opinion and the electorate (Alsamydai, M. 2000).

The axis of the political advertising must be established according to the following:

1. A political ideology that should be displayed first.
2. A communicative methodology, which must remain simple and represent a solution for the problems felt by the public.

In an earlier work on political advertising in Western democratic systems, the editors defined televised political advertising as "moving image programming that is designed to promote the interests of a given party or individual" (Kaid and Holtz-Bacha, 1995).Thus the definition incorporates "any programming format under the control of the party or candidate and for which time is given or purchased". As media systems, channels, and formats of communication have expanded and evolved, the central elements of this definition have remained useful, but a more modernized and professionalized definition now suggests that political advertising should be viewed as "any controlled message communicated through any channel designed to promote the political interests of individuals, parties, groups, governments, or other organizations." This broader conceptualization not only implies the controlled and promotional aspect of the message but acknowledges the different formats, channels, and sponsors that may characterize such communications in a given environment.

As political advertising developed in various media environments and as social changes led to a weakening influence of once-powerful social characteristics and subsequent political predispositions, election campaigns became more important. Traditional social structures have lost their meaning for the individual and no longer prescribe individual behavior in a binding way. Therefore, social variables that played a central role in the classical models of electoral behavior no longer predict voting decisions with the same probability that they once did. Instead, political behavior has become unstable and fluctuating (Holtz-Bacha, 2002). In fact, findings from several Western democracies have shown that party ties are weakening. Voter volatility, as expressed in increasing numbers of floating voters, and voting abstention has been attributed to the so-called dealignment process (Dalton, 2002). This is a process that seems to be going on in many countries but not at simultaneously or with the same speed everywhere. With voters being more unpredictable and their electoral decisions open to short-term influences, election campaigns have gained new importance. It is therefore not surprising that political leaders would be interested in the use of political communications, such as political advertising that provide for the controlled and unmediated conditions that best serve their campaign interests.

2.3. Political Propaganda and Persuasion

Taithe and Thorton (2000) see propaganda as part of a historical tradition of pleading and convincing and therefore, as a form of political language. However, propaganda is always articulated around a system of truths, and expresses logic of exclusive representation. Since the purpose of propaganda is to convince, to win over and to convert; it has therefore to be convincing, viable and truthful within its own remit. The shaping of the term propaganda is also an indication of the way the political nation judges the manner in

which political messages are communicated. Propaganda may shape the communities, as well as defining them.

Qualter (1962) emphasized the necessity of audience adaptation:
"Propaganda, to be effective, must be seen, remembered, understood, and acted upon . . . adapted to particular needs of the situation and the audience to which it is aimed". Influencing attitudes, anticipating audience reaction, adapting to the situation and audience, and being seen, remembered, understood, and acted on are important elements of the communicative process.

Pratkanis and Turner (1996) defined the function of propaganda as "attempts to move a recipient to a predetermined point of view by using simple images and slogans that truncate thought by playing on prejudices and emotions". They separated propaganda from persuasion according to the type of deliberation used to design messages. Persuasion, they said, is based on "debate, discussion, and careful consideration of options", to discover "better solutions for complex problems," whereas "propaganda results in the manipulation of the mob by the elite". Coombs and Nimmo (1993) regarded propaganda as "an indispensable form of communication" and "a major form of public discourse;" however, they presented propaganda as "the mastery of all modern forms of palaver"—that is, "the use of guile and charm". Their approach is similar to Ellul's, for they state, "The volume and sophistication of the new propaganda is so vast, and growing, that we increasingly take it for granted as natural and, thereby, we find it exceedingly difficult to distinguish what is propaganda from what is not". Although their major interest is political propaganda, they also focus on advertising, marketing, and sales pitches. These definitions vary from the general to the specific, sometimes including value judgments, sometimes folding propaganda into persuasion, but nearly always recognizing propaganda as a form of communication.

Politics, at its core, is about persuasion. Various theories and explanations of persuasion have been suggested throughout the centuries. The roots of the study of persuasion can be traced in Ancient Greece. Greek philosophers were mainly concerned with the issues of ethical means of persuasion. Since Aristotle defined his principles of persuasion in his *Rhetoric,* there have been attempts at defining the principles of successful persuasion but for most of human history, persuasion has been studied as an art.

In the early 1900s, research on (political) persuasion was carried out mostly as propaganda analysis and public opinion research. Studies of propaganda in the early part of the twentieth century can be regarded as the antecedents to the social scientific study of persuasion. "After World War II, researchers stopped referring to their subject of study as propaganda and started investigating various constructs of persuasion" (Jowett and O'Donnell, 1992).

The research on persuasion has focused on the characteristics of the source of communication i.e. the communicator, and tried to figure out the influence of these characteristics on the communicator's

persuasive endeavors. The communicator's credibility, expertise, likeability and similarity to the audience are some of the characteristics that have been tested by the researchers.

Perceived credibility consists of the judgments made by a message recipient concerning the believability of a communicator (O'Keefe, 2002). Hovland and Weiss (1951) had hoped to show that high credibility or (good "ethos") increased persuasion; they claimed that the credibility of a source would affect the incentives for changing one's attitude. They contrasted the credibility effect of the American physicist Robert Oppenheimer with that of the Soviet newspaper Pravda by giving the same message (one with reference to Oppenheimer, the other with reference to Pravda) about the nuclear submarines; "U.S. subjects were more persuaded by the [same] message from Oppenheimer in those Cold War days"(Deaux et al., 1999). This is attributed to the fact that for the U.S. subjects Oppenheimer represented high credibility with expertise, whereas Pravda was perceived as a source with low credibility with no expertise.

As O'Keefe underlines both expertise and trustworthiness emerging as basic dimensions of credibility because only when these two aspects exist together can we have reliable communication. "A communicator who knows what is correct (has expertise) but who nevertheless misleads the audience (is untrustworthy, has a reporting bias) produces messages that are unreliable guides to belief and action, just as does the sincere (trustworthy) but uninformed (low-expertise, knowledge-biased) communicator (O'Keefe, 2002).

Other studies on source characteristics have demonstrated that physically attractive sources were more effective than less attractive ones. For example, Chaiken's study of messages about university dining hall menus found that attractive persuaders had a greater persuasive effect than did unattractive persuaders (Chaiken, 1979). Experiments have also shown that people are more easily persuaded if they share some similarities with the source (Goethals & Nelson, 1973).

2.4. Social Media

"Social Media" are "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, which allows the creation and exchange of user-generated content" (Kaplan and Haenlein, 2010). As of June 2010, 22% of time spent online (or one in every four and a half minutes) is spent using social media and blog sites worldwide ("Social Networks/Blogs Now Account for One in Every Four and a Half Minutes Online," 2010). The global average time spent per person on social media sites is now nearly five and a half hours per month (Grove, J. 2010). Popular social media include Facebook, Twitter, LinkedIn, YouTube, Flickr, and Tumblr.

Information Communication Technology (ICTs) is defined by Manuel Castells as "the converging set of technologies in microelectronics, computing (machines and software), telecommunications/broadcasting, and optoelectronics." For the purpose of this discussion, social media networks (SMNs), a subset of ICTs,

will be defined as "online tools and utilities that allow communication of information online and participation and collaboration" (Newson et al., 2008). Additionally, social media tools are websites that "interact with the users, while giving them information."

To understand how social media can be used for social change, it is important to understand the ways that one can communicate online. This section will discuss the ways that users can communicate and interact with groups of people. A group can be a formally organized number of people or simply people who identify with similar values or who have a common interest or experience. For example, Flickr users who tag their photos with the same event tag could be considered a group.
Users can:

1. Virtually join a group.
2. Get updates and messages about a group.
3. Read, post, or comment on news and information.
4. Receive / send private messages with group leaders and members.
5. Read and engage in transparent conversations that can be seen by others "Lurk" in a group—read information without making oneself known as a follower or member of the group.
6. Interact with others despite social or location boundaries.

Online communication is different from the one-way communication of television, radio, and newspapers because online users can respond to messages in real time, not just receive them. However, much like learning of a news story from television, receivers of that information are not necessarily prone for action. Even those who virtually "join" a group may take no further action. "Instead of attending meetings, workshops and rallies, un-committed individuals can join a Facebook group or follow a Twitter feed at home, which gives them some measure of anonymity but does not necessarily motivate them to physically hit the streets and provide fuel for a revolution" (Papic and Noonan, 2011).

An important aspect of motivating social change is convincing people that their participation will make a difference, especially if their participation will require them to experience personal discomfort or danger. This is no small task.

In large groups, such as those involved in a collective political protest, the contribution to the action of each ordinary member (i.e., one who is not a leader of the group) has no discernible impact on the group's overall success; therefore, the rational individual will not absorb the cost of participation(such as time, financial resources, or the threat of physical injury), since he or she will enjoy the public good in any case if others provide it (Finkel et al., 1989).

2.4.1.   *Social Media in Egypt and the Arab world*
Social media allowed Egyptians living under dictatorship to communicate with the world. Egyptians used

Facebook, Twitter, and YouTube to send millions of internet links, news, articles, videos, and free campaigns to people all over the world. The internet allowed people living in a state that controlled traditional media to complain about conditions. News quickly spread because Twitter allowed Egyptians to upload information in as it happened and write comments about their government. This helped to gain national attention because Egyptians wanted change for their country. Social media allowed the free speech that wasn't allowed by the government.

The significance of social media tools cannot be appreciated without being placed within the context of media culture in the Arab world. Over the last ten years, the Arab region has experienced the highest rates of technology adoption amongst all developing nations (Howard, 2011). According to Bernard Lewis, "Perhaps the single most important development is the adoption of modern communications. The printing press and the newspaper, the telegraph, the radio, and the television have all transformed the Middle East" (Lewis, 2011). Though Internet penetration has increased dramatically over the last several years, with 40-45 million Internet users identified in 16 Arab countries surveyed in 2009; the technological capabilities of modern life that are taken for granted in highly developed societies have progressed in a relatively short span of time and have not been embraced by the authoritarian governments that dominate the Middle East (Abbassi, 2010). "Print and visual media developed within decades of each other in the Arab world, as opposed to developing through centuries in Western Europe," so it is of little surprise that "ruling elites fear the Internet as a conduit for political and moral subversion, and this fear has dominated the discourse on the use of the technology" (Hammond,2007). Before 1990, media ownership fell mostly in the hands of the government, subject to strict censorship and supervision. This was largely a result of the 1952 revolution which "claimed a monopoly on truth and hence had to have a monopoly over the means of propagating it as well" (Ayalon, 1995). The 1996 launching of Al-Jazeera, the scion of independent media broadcasting in the Middle East represents a pivotal moment in the history of Arab media, a "revolution in Arabic-language television" and establishing itself as "a forum for debate on human rights, fundamentalism, religion and corruption, offending just about every Arab state in the process." As Internet access has proliferated across the Arab region, a "highly ambivalent and complex relationship between media and governments" has developed, in which Arab autocracies have encouraged Internet penetration in the name of economic development, while simultaneously attempting to maintain control over the spread of information and media sources (Khamis and Vaughn, 2011). This complex relationship between increasing Internet accessibility and a complementary increase in suppression of online freedom has led to a culture of subversion, an "emerging cyber world that knows no physical boundaries," based on online social networking (Salmon, C.T. et al. 2010). With a lack of truly independent and representative media, disenfranchised youths have searched for an alternative method of participation in the public and political spheres.

2.4.2. Social media and politics
The Internet has undoubtedly destabilized many of the features of the analog world that we once took for granted. The ease with which we can now communicate across vast distances to audiences that were

formerly inaccessible to any one of us has fundamentally changed how our culture operates. The effective decentralization of the communications architecture that was once uniformly controlled by a few large corporations has made the role of the mass media in our lives vastly different than it was just a few years ago.

One area in which these changes are keenly felt is in the realm of politics. Although modern elections are still fought primarily on the airwaves, many potential voters are spending less time in front of their televisions and more time taking in news content online. With increasing consumer use of online platforms, the strategies employed by politicians seeking office have been forced to change with them as well. Modern election campaigns must now wage war on two fronts; one traditional (television), and the other very new (online). The interplay between these spheres, however, is poorly understood.

Vitak, J. et al., (2011) indicate that SNSs social network sites continue to grow in popularity as sites for users to share information about their thoughts and activities, and that Facebook has had the biggest growth in recent years with more than 400 million active users. The site's affordances suggest it might be well suited for increasing political participation, in part through the ability to acquire greater political knowledge, increase political interest, and improve political self-efficacy, all of which have been linked to greater political participation in prior research. For example, users can join political groups, download candidate applications, and share their political opinions through the many communication tools on the site. Users can view their friends' activities by scrolling through the News Feed on their home page, and they can comment on friends' posts, thus engaging in active conversation about political issues. From a resource perspective, these affordances also offer affordable (i.e., free) opportunities to develop civic engagement skills with little to no additional time costs for users of Facebook, while simultaneously having access to a potentially large enough "public" to develop civic skills.

3- Developed Hypotheses

The following hypotheses have been developed for this paper:

H1: There is an interest in the political promoting campaigns on social networking sites.

H2: The political promoting campaigns on social networking sites affect the political situation.

H3: The users deal positively with the political promoting campaigns on social networking sites.

H4: The political promoting campaigns on social networking sites are highly credible.

H5: The political promoting campaigns on social networking sites affect individuals' political orientations.

H6: The political promoting campaigns on social networking sites affect individuals' political choices.

4-Research Methodology

The present study is confined to Egyptians' social networking sites users. The structured questionnaire has been developed, and to improve its structure and content the questionnaire was shown to academicians in marketing departments in different universities in Egypt and to experts in politics.

Suggestions and inputs were given and considered and with that, the questionnaire had been posted on social networking sites i.e. Facebook, Twitter and Instagram for a period of two weeks. A total of 397 completed questionnaires were valid for statistical analysis. The questionnaire is divided into two sections. Section A is designed to obtain demographic information about users, and the questions focused on age, gender, educational level, etc. Section B has 14 statements relating to six main dimensions namely, users interest on political promoting campaigns, effect on the political situation, how they deal with political promoting campaigns, political promoting campaigns credibility, effect on political orientations and, effect on political choices.

4.1. Measurement

The questionnaire included perceptual measures that were rated on a five-point Likert scale. Each scale item was anchored at the numeral 1; 1 = "strongly disagree"; 5 = "strongly agree". Several statistical techniques were used including frequency analysis, descriptive analysis, Cronbach's alpha, and t-test. The t-test was used to accept/reject the hypotheses through testing the average mean of single sample, based on the value of scale midpoint, the higher value the more favorable the attitude, and the vice versa. A midpoint equal to 3 was chosen by adding the lower coded value of the Likert scale (1) and the upper coded value (5) of the Likert scale and dividing it by 2.

4.2. Demographic Profile of the Respondents

As shown in table 1, the total sample for the quantitative study is 397 respondents after the editing and validation process. It can be depicted from table 1 that the majority of the respondents are males (78.1%) as compared to females (21.9%) see table 1 and graph 1. This indicates that males are more interested in political promoting campaigns through social media networking sites compared to females. With regards to age, around 80% of the respondents belong to a young age group. This suggests that younger individuals are more interested in political promoting campaigns through social networking sites compared to older individuals. As shown in table 1, 76.1% of the respondents who are interested in political promoting campaigns through social media networking sites are bachelor degree holders or below compared with those holding masters or doctoral degree.

Table 1 *Socio-economic Profile of Respondents*

	Frequency	Percent
Gender		
Male	310	78.1
Female	87	21.9
Age		
Below 20 years	127	32.0
Between 20 and 30 years	190	47.9
Between 30 and 40 years	55	13.9
Over 40 years	25	6.3
Educational Qualifications		
Below bachelor degree	113	28.5
Bachelor degree	189	47.6
Masters degree	63	15.9
Doctoral degree	32	8.1

5-Results

5.1. Reliability and Validity of the Measures

Table 2 shows that, obtained Cronbach's alpha value for all items in this study is 0.88.This shows a high degree of reliability, as a reliability coefficient of Cronbacj's Alpha 70% or higher is considered acceptable in most social science research situations.

Table 2 *Reliability Coefficient*

Number of cases	Cronbach's Alpha	Number of items
397	0.88	14

5.2. Hypotheses Testing

Table 3 shows that users are interested in the political promoting campaigns on social networking sites. The analysis illustrates that the overall mean score of respondents, which measures the users interest in political promoting campaigns on social networking sites is (3.87), which is above the scale midpoint with standard deviation that shows a small dispersion around this mean. This result was further validated by one sample t-test, which revealed that the overall mean difference for the individuals interest in the political promoting campaigns on social networking sites was statistically significant (sig. 0.000) with high t-value (t= 25.26). As a result, hypothesis H1 is accepted, which is; there is an interest in the political promoting campaigns on social networking sites.

Table 3: *One sample statistic and t-value of attitude statement regarding interest in political promoting campaigns*

Dimension 1: Interest in political promoting campaigns	Test value=3

Statements	Mean score	Std dev.	t-value	**Sig**
1- **Political promoting campaigns through social networking sites are important to me.**	3.9219	.86541	21.226	**0.000**
2- **I am interested in the political promotional messages that posted on social networking sites.**	3.8186	.95998	16.991	**0.000**
Interest in political promoting campaigns	3.8703	.68639	25.263	**0.000**

Table 4 shows that political promoting campaigns on social networking sites affect the political situation. The analysis illustrates that the overall mean score of respondents, which measures the effect of political promoting campaigns on social networking sites in the political situation is (3.80), which is above the scale midpoint with standard deviation that shows a small dispersion around this mean. This result was further validated by one sample t-test, which revealed that the overall mean difference for the effect on political situation was statistically significant (sig. 0.000) with high t-value (t= 26.57). As a result, hypothesis H2 is accepted, which is; the political promoting campaigns on social networking sites affect the political situation.

Table 4:_One sample statistic and t-value of attitude statement regarding the effect on political situation_

Dimension 2: effect on political situation Test value=3				
Statements	Mean score	Std dev.	t-value	**Sig**
3- **I believe that the political promotional campaigns have an impact in society.**	3.8489	.90862	18.615	**0.000**
4- **I believe that the various political promotion campaigns have an effect in the current political events.**	3.9496	.85427	22.149	**0.000**
5- **I believe that the political promotional campaigns changed the political reality.**	3.6146	1.03235	11.862	**0.000**
Effect on the political situation	3.8044	.60308	26.575	**0.000**

Table 5 shows that users deal positively with the political promoting campaigns on social networking sites. The analysis illustrates that the overall mean score of respondents, which measures how users deal with the political promoting campaigns on social networking sites is (3.74), which is above the scale midpoint with standard deviation that shows a small dispersion around this mean. This result was further validated by one sample t-test, which revealed that the overall mean difference for how individuals deal political promoting campaigns on social networking sites was statistically significant (sig. 0.000) with high t-value (t= 26.45). As a result, hypothesis H3 is accepted, which is; the users deal positively with the political promoting campaigns on social networking sites.

Table 5:_One sample statistic and t-value of attitude statement regarding dealing with political promoting campaigns_

Dimension 3: dealing with political promoting campaigns	**Test**

value=3				
Statements	Mean score	Std dev.	t-value	**Sig**
6- **I receive promoting campaigns from political parties on social networking sites.**	3.7053	.86240	16.295	**0.000**
7- **I receive promoting campaigns from political candidates for elections via social networking sites.**	3.6071	.99329	12.177	**0.000**
8- **I forward the political promotion campaigns to friends via social networking sites.**	3.8489	.95205	17.765	**0.000**
9- **I discuss the content of the political promotion campaigns with others through social networking sites.**	3.8086	.88399	18.225	**0.000**
Dealing with political promotion campaigns	3.7424	.55925	26.452	**0.000**

Table 6 shows that the political promoting campaigns on social networking sites have low credibility. The analysis illustrates that the overall mean score of respondents, which measures the credibility of political promoting campaigns on social networking sites is (2.60), which is below the scale midpoint. This result was further validated by one sample t-test, which revealed that the overall mean difference for the credibility of the political promoting campaigns on social networking sites was statistically significant (sig. 0.000) with low t-value (t= -7.36). As a result, hypothesis H4 is rejected, which is; the political promoting campaigns on social networking sites are highly credible.

Table 6:*One sample statistic and t-value of attitude statement regarding the credibility of the political promoting campaigns*

Dimension 4: credibility of the political promoting campaigns		Test value=3		
Statement	Mean score	Std dev.	t-value	**Sig**
10- **I believe that the political promotion campaigns on social networking sites are credible.**	2.6020	1.07675	-7.365	**0.000**
Credibility of the political promoting campaigns	2.6020	1.07675	-7.365	**0.000**

Table 7 shows that the political promoting campaigns on social networking sites have low effect on individuals' political orientation. The analysis illustrates that the overall mean score of respondents, which measures the effect of political promoting campaigns on social networking sites on individuals' political orientation is (2.70), which is below the scale midpoint. This result was further validated by one sample t-test, which revealed that the overall mean difference for the effect of the political promoting campaigns on social networking sites on individuals' political orientation was statistically significant (sig. 0.000) with low t-value (t= -4.07). As a result, hypothesis H5 is rejected, which is; the political promoting campaigns on social networking sites affect individuals' political orientation.

Table 7:*One sample statistic and t-value of attitude statement regarding the effect on political orientation*

Dimension 5:the effect on political orientation	**Test**

value=3				
Statement	Mean score	Std dev.	t-value	**Sig**
11- I believe that the political promotion campaigns on social networking sites led to change my political orientations.	2.7003	.99154	-4.071	**0.000**
Effect on political orientation	2.7003	.99154	-4.071	**0.000**

Table 8 shows that the political promoting campaigns on social networking sites have low effect on individuals' political choices of political organizations and political candidates for election. The analysis illustrates that the overall mean score of respondents, which measures the effect of political promoting campaigns on social networking sites on individuals' political choices is (2.60), which is below the scale midpoint. This result was further validated by one sample t-test, which revealed that the overall mean difference for the effect of political promoting campaigns on social networking sites on individuals' political choices was statistically significant (sig. 0.000) with low t-value (t= -4.25). As a result, hypothesis H6 is rejected, which is; the political promoting campaigns on social networking sites affect individuals' political choices.

Table 8:*One sample statistic and t-value of attitude statement regarding the effect on political choices*

Dimension 6: effect on political choices				
Test value=3				
Statements	Mean score	Std dev.	t-value	**Sig**
12- I believe that the political promotion campaigns on social networking sites influence my choice of the political parties.	2.6977	.89855	-0.472	**0.000**
13- I believe that the political promotion campaigns on social networking sites influence my choice of the political individuals.	2.6650	1.00308	-3.209	**0.000**
14- I believe that the political promotion campaigns on social networking sites influence my choice of the political candidates for elections.	2.6171	.97934	-2.556	**0.000**
Effect on political choices	2.6599	.54222	-4.251	**0.000**

6- Discussion and Conclusion

The new revolution in social media has exploded into an effective communication tool, not only for social connections, but also for political reforms and social actions. Perhaps social media was not absolutely critical to the political change in Egypt; however, it helped to develop a way for political change, which would have been impossible without it. Looking at the impact of social media on Egypt, it has been observed that people ask for a Facebook profile rather than a telephone number; chat online rather than talk on the phone; emailing has even started to decline in comparison to the increase in use of social media and blogs, and around the world, social media has opened new possibilities for communication and social change.

The objective of this study is to determine how Egyptian users of social networking sites are interested in political promoting campaigns and how they deal with such campaigns. Moreover, this paper measures the impact of campaigns on influencing, current political events, the individual's political choices and orientations, as well as, the extent to which individuals can rely on such campaigns.

This study contains six dimensions. Each dimension has its own corresponding hypothesis; three hypotheses were accepted and three were rejected. Research findings indicate that Egyptians are basically interested in political promoting campaigns on social networking sites. Additionally, Egyptians confirm the great impact of such campaigns on the community at large through affecting political reality and political events. This study also reveals that political promoting campaigns posted on social networking sites are positively received and dealt with by Egyptians. This finding can be used by politicians such as, (organizations, individuals, and candidate for elections) in effectively achieving their political goals. On the other hand, Egyptians believe that these campaigns have low level of credibility and reliability. Hence, this study concludes that political promoting campaigns on social networking sites have a low impact on the individual's political orientations and choices such as, (political organizations, political individuals, and candidate for elections).

To sum up, politicians should depend more on social networking sites in disseminating their political promoting campaigns; they should also develop the style and content of the promoting message in a way which enhances its ability to affect and achieve the appropriate change in individual's orientations and belief. Also, they ought to adopt the reliability concept as an essential feature in their posted campaigns and fulfill their given promises, as, reliability is the base of confidence building and is essential in achieving the required change in individual's orientations for the benefit of those politicians.

Finally, in order to create the right impact, a political party needs to make its presence felt on at least one of the social networking sites, such as, Facebook, Twitter, YouTube, Flickr….etc. because they are the fastest growing and furthest reaching of social networking sites and they present striking ways of publicizing to and connecting with individuals.

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Connotation of "Human Capital: Concept, Effects and Benefits (Review)

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Abstract

Recently accumulation of human capital has gained a central role. Human capitals refer to processes relating to education, training, and other professional initiatives for increasing the levels of knowledge, skills, abilities, values, and social assets of employees, leading to satisfaction and performance of the employees, and eventually increasing firm performance. This paper is focused on discussing the concept, mode of building, effects and benefits of human capital.

Introduction

According to Bassanini & Scarpetta (2002)in the recent growth literature the accumulation of human capital has gained a central role. Marimuthu et al (2009) expressed that 'Human Capital' with increasing globalization and the saturation of the job market is getting wider attention especially due to the recent downturn in the various world economies. All the countries emphasize on a more human capital development by devoting necessary efforts and time to accelerate the economic growth. Thus to enter the international arena one of the fundamental solutions is human capital development. Firms must develop human capital by investing necessary resources, which tend to have a great impact on performance and, firm performance is viewed in terms of financial and non-financial performance. Marimuthu et al (2009) revealed that human capitals refer to processes relating to education, training, and other professional initiatives for increasing the levels of knowledge, skills, abilities, values, and social assets of employees, leading to satisfaction and performance of the employees, and eventually increasing firm performance. Marimuthu et al (2009) also narrated that most firms in response to the changes, have embracedthe notion of human capital that has a good competitive advantage and will enhance higher performance. Human capital development becomes a part of an overall effort to achieve cost-effective and firm performance. Hence, firms need to understand human capital that would improve performance, enhancing satisfaction of employee. Although there is a broad assumption that human capital has positive effects on performance of the firms, the notion of performance for human capital remains largely untested.

Origin of Concept of Human Capital

Germon et al (2011) mentioned that the human capital concept was developed first by Theodore Schultz (Schultz, 1961) and Garry Becker made this theory famous.

Malloch (2003) also revealed this fact in detail expresseing that the term "human capital" first appeared in a 1961 in an *American Economic Review* article, "Investment in Human Capital", by Nobel-Prize winning economist, Theodore W. Shultz. Most economists are agreed that human capital comprises skills, experience, and knowledge some add personality, appearance, reputation, and credentials to the mix and still some others, equate human capital with its owners, suggesting human capital consists of "skilled and educated people". Newer conceptions of '**total human capital'** view the value as an investment. A researcher Thomas O. Davenport, in Human Capital: 'What It Is & Why People Invest It (1999) looked at how a worker performs depending on ability and behavior. For him, the choice of tasks also requires a time allocation definition. The combination of ability, behavior, effort, and time investment produces performance, the result of personal investment. Thomas O. Davenport gave the equation for this as: THC = A & B x E x T, where a multiplicative relationship enhances the outcome.

In this equation THC (stands for **Total Human Capital**) = **A** for ability, **B** for behavior, **E** for effort and **T** for (time),

Olaniyan & Okemakinde (2008) concluded referring many studies that the economic prosperity and functioning of a nation depend on its physical and human capital stock. Whereas the former has traditionally been the focus of economic research, factors affecting the enhancement of human skills and talent are increasingly figuring in the research of social and behavioral sciences.

Definitions

Human Capital (HC)

Marimuthu et al (2009) and Rizvi (2011) both quoted Schultz (1993), who defined the term "human capital" as: *"A key element in improving a firm assets and employees in order to increase productivity as well as to sustain competitive advantage".*

Marimuthu et al (2009) and Rizvi (2011) asserted that to sustain competitiveness human capital in the organization becomes an instrument used to increase productivity. Human capitals refer to processes relating to education, training, and other professional initiatives for increasing the levels of knowledge, skills, abilities, values, and social assets of employees, leading to satisfaction and performance of the employees, and eventually increasing firm performance. Human capital is an important input for organizations especially for continuous improvement of employees mainly on knowledge, skills, and abilities. Marimuthu et al (2009) and Rizvi (2011) also quoted definition of human capital by OECD (Organization for Economic Co-Operation and Development, 2001) who defined it as: "human capital is

referred to as:

"The knowledge, skills, competencies, and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being".

Human Capital Development

Rizvi (2011) mentioned with references that Adam Smith defined four types of fixed capital characterized as that affording a revenue or profit without circulating or changing masters. The four types were: (1) useful machines, instruments of the trade; (2) buildings as the means of procuring revenue; (3) improvements of land and (4) human capital. 'Human capital represents the knowledge, skills and abilities that make it possible for people to do their jobs. "*Human Capital Development is about recruiting, supporting and investing in people through education, training, coaching, mentoring, internships, organizational development and human resource management".*

Human Capital Theory

Olaniyan & Okemakinde (2008) stated that in general terms, human capital represents the investment people make in themselves that enhance their economic productivity. They defined human capital theory as:

"Human Capital Theory is the theoretical framework most responsible for the wholesome adoption of education and development policies"

What is Human Capital – concept

Jeong (2002) is of the opinion that conceptually, human capital input is the labor input in the production adjusted for quality in terms of skills and health.

Marimuthu et al (2009) asserted with citations that human capital theory is rooted from the field of macroeconomic development theory. Capitals have different kinds including: schooling, computer training course, and medical care expenditures, and in fact, lectures on the virtues of punctuality and honesty are also capital, because, they improve health, raise earnings, and add to a person's appreciation of literature over a lifetime. Consequently, it is fully in keeping with the capital investment in capital, which are, investment with valuable returns that can be calculated. From the perspective of Classical Economic Theory, human capital considers labor as a commodity, tradable in terms of sale and purchase. This classical theory very much focused on the exploitation of labor by capital. However, contrary to traditional of labor, human capital refers to the knowledge, expertise, and skill one accumulates through

education and training. With emphasis on economic and social importance of human capital theory, the most valuable of all capital is that investment in human being. Researchers distinguish general-purpose human capital from firm-specific human capitals. Firm-specific human capital includes expertise obtained through education and training in accounting procedures, management information systems, or other expertise specific to a particular firm. General-purpose human capital is knowledge gained through education and training in areas of value to a variety of firms such as generic skills in human resource development. Education and training are the most important investment in human capital. Marimuthu et al (2009)

Ballot et al (2001) commented that R&D capital and marketing capital are the most frequently cited items, but workers' human capital is also important. The firm is able to augment this capital by hiring educated workers and by training its existing workers and conversely, it can reduce it by its separation policy, its attitude towards layoffs, quits, and retirement. It is also responsible for the organization of the individual workers' human capital and any resulting efficiency. Human capital exercises its effects on the firm's productivity through following mechanisms: (1)an efficiently organized firm with a manager who has substantial human capital will make better decisions than its rivals with lower human capital; (2)innovation will be stimulated by the quality and training of the personnel in the R&D department; (3)learning-by-doing is also higher if workers have high human capital.

Germon et al (2011) with references mentioned that Human capital is the aggregation of individual's incorporated intangibles assets, e.g. knowledge, experience, skills etc. Human capital is a set protean and highly volatile as likely to disappear with the departure of those who hold this capital. Based on these features can bring out a typology of human capital. Thus human capital is decomposed in three categories, such as:

General human capital includes all the generic knowledge and competences an individual that has accumulated during his school career and professional experiences.

Human capital specific to the firm this capital is the set of skills and knowledge that an individual must master to operate effectively in the firm that employs him. This capital and Organizational capital are interdependent.

Human capital specific to the task develops through work experience, vocational training. It corresponds to the skills, knowledge that an individual will acquire about and for his job.

Rizvi (2011) revealed that human capital is a stock of skills and knowledge enabling to perform labor so as to produce economic value. It is workers gained skills and knowledge through education and experience with different areas in that field.

Stiles & Kulvisaechana (n.d) 'The concept and perspective of human capital is on the assumption of the fact that there is no substitute for knowledge and learning, creativity and innovation, competencies and capabilities; and that they need to be relentlessly pursued and focused on environmental context and

competitive logic of the firm'.

Alani, & Isola (2009) in their study on Nigeria stated that human capital refers to human beings who possess skills, knowledge and attitudes, which, are utilized in the production process. Human capital is generally believed to be the most important factor of production, because it coordinates other factors of production to produce goods and services for human consumption. Human capital is the most active catalyst of economic growth and development.

Stiles & Kulvisaechana (n.d) are of the view that it is generally understood that 'human capital consist of the capabilities, knowledge, skills and experience of the individual employees and managers, of the company as they are relevant to the task at hand, and also the capacity to add to this reservoir of knowledge, skills, and experience through individual learning'. It becomes clear that human capital is rather broader in scope than human resources. The emphasis on knowledge is important, and in an individual level perspective, human resource is chiefly concerning with job-related knowledge, whereas the human capital has moved beyond the individual to embrace the idea that knowledge can also be shared among groups and institutionalized within organizational processes and routines.

The Relationship between Human Capital and Firm Performance

Arrau (1989) expressed that human capital in the economic literature has played a dual role. On the one hand, being, fundamental source of aggregate growth and on the other hand being used to explain the observed profile of earnings, work-time and training over the life cycle.

Marimuthu et al (2009) described with citations that the focus of human capital is on two main components, i.e. individuals and organizations and with references further elaborated this concept that human capitals have following four key attributes:
(1) Flexibility and adaptability
(2) Enhancement of individual competencies
(3) The development of organizational competencies and
(4) Individual employability.
These attributes generate and add values to individual and organizational outcomes. Findings of various studies incorporate human capital with higher organizational commitment; and enhanced organizational retention; higher performance and sustainable competitive advantage. Fundamentally all this debates focuses on individual and organizational performance. Human capital importance depends on its degree to contribute to the creation of a competitive advantage. From economic viewpoint transaction-costs indicate that firms gain a competitive advantage when they own their specific resources to which rivals cannot copy. Thus, with the increase of human capital uniqueness, firms have incentives to invest resources into their management with the aim to reduce risks and capitalize on productive potentials. Individuals need to enhance their competency skills in order to be competitive in their organizations. The

human capital theory, within its development, paid greater attention to training related aspects, which is much related to the individual perspective. Therefore, training is an important component of human capital investment. Any activity, improving the worker's quality of productivity is human capital investment. This refers to the knowledge and training persons require and undergo that increases their capabilities in performing activities of economic values. The importance of training is emphasized, which is linked to the longevity of companies with greater tendency to business and economic growth whereas the lack of training of workforce leads to low competitiveness. In turn, a greater stock of human capital is associated with greater productivity and higher salaries and as a source human capital besides motivating workers, and boosting up their commitment also creates expenditure in R&D and pave a way to generate of new knowledge for the economy and society in general. For small businesses human capital is a valuable asset, and positively associated with business performance.

Stiles & Kulvisaechana (n.d) argued that the link between performance and human capital is based on two theoretical strands. The first is the resource-based view of the firm. The second is the expectancy theory of motivation (Vroom 1968) composed of three elements: the valence or value attached to rewards; the instrumentality, or the belief that the employee will receive the reward upon reaching a certain level of performance; and the expectancy, the belief that the employee can actually achieve the performance level required. HRM practices that encourage high skills and abilities - e.g. careful selection and high investment in training - can be specified to make the link between performance and human capital management.

Modes of Building Human Capital

Acquah & Hushak (1978) asserted that in a production activity the inputs' quality is recognized as a very important determinant of their productivity. Changes in labor quality are used to account for changes in labor productivity growth. If quality of labor is a constraint to economic development, policy makers are to make decisions about how human capital formation could be increased to improve development potential.

But what is the answer of how human capital formation could be increased? The answer is Training and Education.

1-Training and Education

Rizvi (2011) expressed with citations that the rapid development of the human development theory has led to greater attention being paid to training related aspects. Human capital investment is any activity, leading to the improvement in the quality (productivity) of the worker. Thus, training is an important component of human capital investment. It refers to the knowledge and training persons require and undergo for increasing their capabilities for performing activities, having economic values. Contemporary studies have shown the importance of training. The lack of training of workforce is related

to low competitiveness. A greater human capital stock is related with greater productivity and higher salaries. Similarly, training is linked to the longevity of companies, which in turn is related to business and economic growth. Human capital is a motivating source to workers, boosting up their commitment and creating expenditure in research and development (R&D) and eventually paving way to generate new knowledge for the economy and society in general. Human capital is a precious asset for small businesses, and positively related with business performance. Investments in training are very desirable, from both a personal as well as a social perspective. From the organizational perspective, human capital plays a very significant role in the strategic planning of how to create competitive advantage. It is stated that a firm's human capital has two dimensions, which are value and uniqueness. A firm demonstrates value of its resources when they allow for improvements in effectiveness, capitalization of opportunities and neutralization of threats.

Marimuthu et al (2009) further asserted that investment in training is desirable form both a personal and social perspective. From the organizational level, human capital plays an important role in the strategic planning on how to create competitive advantages. A firm's human capital has two dimensions, which are value and uniqueness. Firm indicates that resources are valuable when they allow improving effectiveness, capitalizing on opportunities and neutralizing threats. In the context of effective management, value focuses on increasing profits in comparison with the associated costs. Firm's human capital can add value if it contributes to lower costs, provide increased performances.

Olaniyan & Okemakinde (2008) commented that the belief that education is an engine of growth rests on the quality and quantity of education in any country. Empirical evidences of human capital model revealed that investment in education has positive correlation with development and economic growth.

McDonald & Roberts (2002) concluded that education capital alone is a potentially inadequate proxy for human capital as a factor in the determination of growth, while the importance of country- and time-specific fixed effects challenge the assumptions of common initial states of technology and constant rates of technical progress.

Olaniyan & Okemakinde (2008) also expressed that education is an economic good because it is not easily obtainable and thus needs to be apportioned. Economists regard education as both consumer and capital good because it offers utility to a consumer and also serves as an input into the production of other goods and services. As a capital good, education can be used to develop the human resources necessary for economic and social transformation. The focus on education as a capital good relates to the concept of human capital, which emphasizes that the development of skills is an important factor in production activities. It is widely accepted that education creates improved citizens and helps to upgrade the general standard of living in a society. Therefore, positive social change is likely to be associated with the production of qualitative citizenry. This is an increasing faith that education is an agent of change in many developing countries. The pressure for higher education in many developing countries has

undoubtedly been helped by public perception of financial reward from pursuing such education. Generally, this goes with the belief that expanding education promotes economic growth.

Olaniyan & Okemakinde (2008) expressed that human capital theory rests on the assumption that formal education is highly instrumental and even necessary to improve the production capacity of a population. In short, the human capital theorists argue that an educated population is a productive population. Human capital theory emphasizes how education increases the productivity and efficiency of workers by increasing the level of cognitive stock of economically productive human capability, which is a product of innate abilities and investment in human beings. The provision of formal education is seen as a productive investment in human capital, which the proponents of the theory have considered as equally or even more equally worthwhile than that of physical capital. The rationality behind investment in human capital is based on three arguments:

(i) - That the new generation must be given the appropriate parts of the knowledge which has already been accumulated by previous generations;

(ii) - That new generation should be taught how existing knowledge should be used to develop new products, to introduce new processes and production methods and social services; and

(iii) - That people must be encouraged to develop entirely new ideas, products, processes and methods through creative approaches.

Human capital theory provides a basic justification for large public expenditure on education both in developing and developed nations. The theory was consistent with the ideologies of democracy and liberal progression found in most Western societies.

Its appeal was based upon the presumed economic return of investment in education both at the macro and micro levels. Efforts to promote investment in human capital were seen to result in rapid economic growth for society. For individuals, such investment was seen to provide returns in the form of individual economic success and achievement.

Alani, & Isola (2009) expressed that human capital means human beings who have acquired skills, knowledge and attitudes, which are needed to achieve national development. These human resources are either employed in work organizations or are self-employed. They help to realize organizations' objectives with the overall intention of promoting national growth and development. The skills, knowledge and attitudes gained through human capital formation are a direct result of deliberate investments in human beings. Human capital has become important in the development process because human beings are the most-prized assets of a nation. Other factors of production such as land, unskilled labor, financial and physical capital need skilled human resources to create wealth. Those countries of the world that have realized sustainable development have invested heavily in human beings. A nation with abundant natural resources cannot achieve its full potentials without skilled human resources. Technical innovations that have occurred in the developed countries and a few developing countries are a product of human capital development. When the creative potentials of people are developed, their ability to participate in the development process is enhanced. In spite of the fact that human capital development also focuses on self-development so that individuals can realize their potentials and meet their aspirations,

the key objective of human capital formation is the transformation of the social, political, economic and technological life of the society. The desire is to increase the capacity of people to do productive work and serve as agents of national growth and development. Viewed from another perspective, human capital development focuses on all activities directed toward producing people with appropriate skills, knowledge, attitudes, motivation and job-related experience which are required for national development. Human development also occurs when national development goals are realized, since human beings are expected to be the objects of development. The significance of human resources in the development process has therefore compelled its development..

Alani, & Isola (2009) mentioned that Scultz (1961) observed that investments in formal education, health facilities and services, on-the-job training, adult education and migration improve the capabilities of human beings and are therefore avenues for promoting human capital development. Formal education is perhaps the most important avenue for improving the abilities of human beings. It is the form of education given in primary, secondary and tertiary educational institutions. These institutions offer full-time educational programs to their beneficiaries. However, most tertiary institutions of learning organize part-time, evening or sandwich programs for adults who cannot secure admission into full-time programs or combine study with work. One of the major tasks of Education in economic growth and development is the production of skilled human resources for the various sectors of the economy. Apart from performing this quantitative function, formal educational institutions also impart appropriate skills, knowledge and attitudes in their clients. These skills, knowledge and attitudes assist them in coping with the demands of their jobs. This is called the qualitative function of education. It is upon these skills and knowledge gained through formal education that employers of labor build on through on-the-job training. Education also increases the mobility of labor and promotes technological development through science and technology education. Education also raises the productivity of workers through the acquisition of skills and knowledge. Provision of health facilities and services to people in a society is also a way of developing human capital. Health care services increase life expectancy, thus ensuring that workers can contribute to national development for a long time until they reach the retirement age and ensure that the resources invested in them are not wasted as a result of premature death. Health services also improve the strength and vigor of people and guarantee that they remain healthy for productive work. On-the-job training programs organized by employers of labor also remain a vital way of developing human capital. No matter the level of skills, knowledge and attitudes inculcated in people through formal education, on-the-job training will still fill some gaps in human capital development. Situations always arise for employers to conduct on-the-job training for workers, within or outside the premises of the organization. On-the-job training may become necessary when employees are promoted, when they assume new responsibilities, when the organization notices that there is declining productivity, when there is the need for specialization among workers or when they need additional skills and knowledge to cope with the demands of the job.

Asteriou, & Agiomirgianakis (2001) asserted that educational variables generally act as proxy for

investment in human capital. It is widely accepted that the principal institutional mechanism for developing human skills and knowledge is the formal educational system. Most developing countries are now believing, that the rapid expansion of educational opportunities is the key to their economic and national development.

2- Investment in Human Capital

Acquah & Hushak (1978) argued that the distribution of personal income is related to investment in human capital.

Wolff (2000) wrote that human capital theory views schooling as an investment in skills and hence as a way of augmenting worker productivity.This line of reasoning leads to growth accounting models in which productivity or output *growth* is derived as a function of the *change* in educational attainment. The early studies on this subject showed very powerful effects of educational change on economic growth.

Coetzer (2006) with numerous references argued that the idea of investing in human beings as a form of capital since the emergence of human capital theory has accelerated the growing interest in theory and practice of workplace learning. Literature on workplace learning, organizational learning and the learning organization is evidence of this growing interest in making workplaces into effective learning environments. Why learning has become so important? Learning is important due to need of organizations for responding to rapid and continuous change in the external environment of organization. Organizations for their survival must monitor their external environments, and anticipate, and adapt to continual change. In the organizations, implementation of change initiatives e.g. the introduction of new technology, products or processes, need the acquisition of new knowledge and skills. Faster learning organizations can adapt quicker and thus avoid the economic evolutionary 'weeding out' process. Learning is important, for survival of organization, and also because the ability to learn faster than competitors is the only sustainable competitive advantage. Having entered the knowledge based era there is increasing emphasis on human capital, rather than physical and financial assets because in the economy where the only certainty is uncertainty, the one sure source of lasting competitive advantage is knowledge. Thus knowledge is regarded as a key asset of employees, and their ability to acquire and use it is considered a source of competitive advantage. For employees learning at and through work is increasingly important for ensuring their employability, because of insecurity in employment, and the proliferation of flexible contracts of employment. Organizations expect employees to be flexible, adaptable and constantly learning to perform new and changing tasks. Although organizations do not provide employment security, the ability of employees and their willingness to learn and adapt are the key determinants of their employability elsewhere. Thus, employability is the 'new security'. As a part of the 'new deal' in employment, good employers will ensure that their employees remain employable by keeping them up to date through learning and development. Arguments for the importance of learning are not limited to economic considerations. Another line of reasoning emphasizes learning at work as part of general education for citizenship and fuller participation in society as a whole. Employees develop skills

of expression and communication that spill over into their personal lives. They learn new ways of collaborating and planning that they apply in the families and community organizations to which they belong. They not only become more effective in their present responsibilities, but help transform the nature of work in which they are engaged creating new work practices and forms of production. These arguments for the importance of learning suggest that learning in organizational settings should be continuous, if both the economic and social goals of enhanced participation in learning are to be realized. The growing awareness of the need to encourage continuous learning has far reaching consequences for managers, who are expected to manage the workplace as a place fit for learning. The literatures that focus on workplace learning, organizational learning and the learning organization encourage managers to move away from a directing role and towards that of coach and facilitator, and thus, take on increasing responsibility for supporting the learning of their staff. There is no place for managers who do not appreciate their own vital role in fostering learning.

Rizvi (2011) concluded that undoubtedly, human resource input plays a significant role in enhancing competitiveness of the firms. At a glance, substantial studies were carried out on human capital and their implications on firm performance were widely covered and obviously, human capital enhancement will result in greater competitiveness and performance.

Malloch (2003) cited Davenport who elaborated a worker investment notion, describing what it means to work in the relationship nexus between the employee and the employer. He explained mostly in anecdotal, company specific detail, how companies that treat workers as investors can attract, develop and retain people. These people both get much value from their organization—and give so much in return that they create a *competitive advantage* for their firms. A further quantitative refinement in this field is the so-called business case for ROI in human resources. Works such as The HR Scorecard among others puts forward a measurement case for viewing the employee as a human asset.It has become almost trite to recite the fact that in both economic development and in firm behavior—the most important assets are the human ones.

3- Human Resource (HR) Practices

Rodwell & Teo (2003) asserted referring literature that specific HR practices could be used to enhance the human capital of employees. Indeed, such practices are indicators of a firm's investment in HR. With the increasing focus on the management of knowledge, as a source of competitive advantage, the human capital approach provides the opportunity for emphasizing the intellectual aspects of capital. Researchers have also concluded HR practices are related to a firm's performance in the manufacturing industry. To increase productivity through human capital, the firm needs to harness the potential contribution of the employees. This human capital must then be developed and managed as a core competency of the firm, and a potential source of competitive advantage. A key mechanism for harnessing the human capital is by using appropriate HR practices. Indeed, the importance of HR practices in international business operations and the significance of understanding the differences in employment

relations cannot be underestimated. HR practices can also be used to match the firm's HR characteristics with the specific stage of internationalization. Exporting is generally used as a vehicle for manufacturing firms to accumulate knowledge of, and experience in, international business. Organizations can put in place the internal systems to encourage and enhance the accumulation of knowledge. Empirical evidence has demonstrated that human capital-enhancing HR practices are important as a mechanism for enhancing the accumulation of knowledge. HR practices enhancing human capital have been found positively correlated with the adoption of advanced manufacturing technologies. For instance, the adoption of HR practices, which focused on selective staffing, was shown to contribute towards the development and maintenance of employees who were able to adapt to the demands and pressures of internationalization. The use of HR to develop and harness knowledge is consistent with the human capital theoretical approach, which argues the skills, knowledge, and abilities possessed by the HR would provide economic value to organizations. Proponents of human capital theories argue that when complemented by the adoption of HR practices, there is a positive relationship between firm investment in human capital and performance.

Effects and Benefits of Human Capital

Germon et al (2011) concluded that human capital is a component of intangible assets of the company. The recent global economic crisis gave rise to the central role of human capital in the sustainable performance of organizations. To remain competitive significance firms must constantly innovate, produce better and be responsive.

Miller & Upadhyay (2000) reported that human capital generally contributes positively to total factor productivity. In poor countries, however, human capital interacts with openness to achieve a positive effect.

Ballot et al (2001) commented with references that human capital has a direct effect on value added as an input, either through a higher direct productivity of educated workers or because of better decisions, organization of work or supervision. Trained workers can also informally train their colleagues in a team. In the same way, technological capital as measured by the value of patents, the cumulated R&D expenditures, etc.can enter the production function since it is a source of innovation and consequently of value added. This modeling strategy means that the growth of value added can be obtained only by the growth of either human or technological capital. It requires positive net flows of investment. At the aggregate level, the neoclassical endogenous growth model of Lucas 1988relies on this necessity of an accumulation of human capital. Besides the static effects, there are dynamic effects of intangible capital that might lead to increasing returns. Researchers are a source of continuous innovation and growth and education increase the capacity to innovate and to adapt to new technologies, which means higher diffusion of new technology throughout the economy. This continuous improvement in technology generates productivity growth. A certain level of intangible capital then favors productivity growth.

Bassanini & Scarpetta (2002)asserted thatthe accumulation of human capital has gained a central

role in the recent growth literature. While there is strong theoretical support for a key role of human capital in the growth process, empirical evidence is not clear-cut. On the one hand, micro-economic studies based on human capital earnings functions suggesting significant returns to education. On the other hand, growth regressions have generally failed to find a significant contribution of human capital to economic growth. In particular, the evolution of human capital over time is not found statistically related to output growth.

Simon&Nardinelli (2002) describing the contribution of human capital in cities growth and development opined that cities that start out with proportionately more knowledgeable people grow faster in the long run because (a) knowledge spillovers are geographically limited to the city and (b) knowledge is most productive in the city wherein it is acquired. It is found that city-aggregates and metropolitan areas with higher average levels of human capital grew faster over the 20th century. The effects of human capital were large: a standard deviation increase in human capital in 1900 was associated with a 38% increase in average annual employment growth of city-aggregates over the period 1900–86. The average annual employment growth over the period 1940–90 was of about 15%. Although the rise of the automobile appears to have overwhelmed the importance of human capital in cities dominated by manufacturing early on, human capital seems to have been economically more important in manufacturing cities than in non-manufacturing cities later on. Moreover, the estimated effects of human capital persisted for very long periods of time, suggesting either that adjusting to the steady state is very lengthy, or that shocks to growth are correlated with the presence of human capital.

Germon et al (2011) elaborating importance of human capital in the daily life of the SMEs expressed that there are 19 million SMEs in hugely different sectors in the EU, which are the backbone of economy of the European Union and employ nearly 75 million people. They are at the heart of the economy and induce an important source of knowledge and skills since centuries. SMEs have very interesting assets such as flexibility, responsiveness, speed of action, to meet the challenges of the economic globalization. These assets must be used to implement a comprehensive strategy to protect the intangible capital. Among the facets of intangible capital human capital have an important place in the daily life of the SMEs. This capital, which includes knowledge, know-how, skills, etc., represents a source of riches for SMEs. Germon et al (2011) quoted Stiglitz (2009) besides others who wrote that Human capital (HC) is a key differentiator for the increase of indicators such as production, quality, and market share. Forgetting the human capital as a factor in the economic performance of a business is a mistake. HC refers to the set of physical skills, like intellectual, an employee contest to economic production.

Human Capital and Economic Growth

Asteriou, & Agiomirgianakis (2001) asserted that on the endogenous growth side of models, human capital accumulation has been recognized as one of the most important engines of economic growth. They mentioned Romer (1990) who developed a growth model, assuming that the creation of new ideas/designs is a direct function of the human capital (which has the form of scientific knowledge).

Therefore, investment in human capital, by improving research and development, entails a growth in physical capital investment, which in turn results in higher real growth rates. Persistent accumulation of knowledge by human beings, either with intentional efforts, or with learning by doing promotes the productivity of labor and capital, and is the driving force of economic growth.

Hoti (2003) expressed that the role of human capital for economic growth is widely recognized in economics literature. Labor force quality has a consistent, stable, and strong relationship with economic growth. The macro effects of human capital, has been analyzed by regressing the economic growth on human capital as well as on other variables. Growth and schooling are highly correlated across countries. Hoti (2003) mentioned results of a study that greater schooling enrolment in 1960 consistent with one more year of attainment is associated with 0.30 percent faster annual growth over 1960-1990. Moreover, human capital accumulation seen from an individual viewpoint explains to a great extent earning differentials among individuals in the labor market. Consequently, the level of human capital is important from both macro and micro aspect. Given these facts, governments throughout the world pay increasing attention to the quality of education delivered by schools. While the progress toward the market economy in the early phases of transition did depend on the willingness and commitment of government to implement reforms, the long run adjustment of the transition economies depends primarily on the ability of human capital to absorb and to exercise the knowledge that is necessary to compete internationally. Human capital, that is able to adjust to technological changes and to the principles of market economy is a prerequisite to bring economic prosperity for the nation as a whole. Moreover, the education system [i.e. human capital] is also vital to wider process of societal change that both under-pins economic reforms and which is needed in its own right, because transition involves the developments of new nations.

Measurement of Human Capital

Jeong (2002) asserted that broadly, there are two approaches to measuring human capital. One, the **cost-based approach** measures the cost of human capital investment. For an international comparison of the human capital, the most common measure of the cost is the years of schooling.. In comparing human capital input across countries, it is assumed that the years of schooling embodied in living (and working) people are proportional to the human capital input supplied by these people. The popularity of the measurement method based on the years of schooling seems to stem from the fact that it directly relies on educational investment, which is considered a key element for human capital formation. However, this method has some shortcomings. First, it does not measure the human capital acquired outside the school: skills acquired before schooling, in job training outside the school and in the workplace. A worker with no schooling clearly has a human capital to the extent that he is contributing to the production. Skills acquired in the workplace, especially, may differ greatly between the workers in low-income countries and workers in high-income countries. Second, this method does not measure human capital in terms of health, which is an important factor in labor productivity. Human capital in terms of health may differ greatly between low-income and high-income countries. Third, the measurement using the years of schooling implicitly assumes that the formation of human capital per year of schooling is the same in all

countries. The quality of education may vary greatly across countries, especially between the low-income and the high-income countries, leading to different quantities of human capital formation per year of schooling. Fourth, the measurement using the years of schooling implicitly assumes that the formation of human capital per year of schooling is the same at all levels of schooling. One can conjecture that the marginal formation of human capital decreases as the duration of schooling increases and is the same as the marginal cost at the point when schooling stops. This conjecture is supported, by the finding, that, the return to primary education is higher than the return to secondary education, which, is higher than the return to tertiary education. The other approach, the **income-based one** uses the labor income differences across workers with various levels of human capital to measure human capital inputs. Income differences across workers are the differences in the market values of their human capital inputs and are largely determined by the differences in their human capital inputs. The differences in the human capital input could then be derived from the income differences by eliminating the part of the differences due to the factors other than human capital input. Researchers classifies workers by education level, age and sector where they work (urban or rural) in a sample of 21 countries, with the assumption that two workers of the same type, across countries as well as within a country, supply the same human capital input.

Stiles & Kulvisaechana (n.d) concluded that from the foregoing discussion, there is compelling evidence for a linkage between strong people management and performance. But how is human capital to be measured? Measurement is obviously important to gauge the impact of human capital interventions and address areas for improvement, but in this field, measurement is a problematic issue. The process identified by some academics is to specify the key human capital dimensions and assess their characteristics. It is then essential to measure these practices in terms of outcomes. These outcomes differ along a number of, by now, familiar categories: either (i) financial measures; (ii) measures of output or goods and services - units produced, customers served, number of errors, customer satisfaction) or (iii) measures of time - lateness, absence etc. The measurement of human capital remains an area where little commonality can be found. Perhaps this reflects the sheer number of contingencies facing organizations and the idiosyncrasies inherent in specific firm contexts. There is agreement, however, on the point that just relying on financial measures of performance is likely to result in a highly partial evaluation. A stakeholder view or balanced scorecard approach is seen as most appropriate to capture the complexity of human capital activity.

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Intellectual Capital & Organizational Advantage:

an economic approach to its valuation and measurement

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Abstract

The information age is a revolution and the modern economy has been utterly transformed in recent years. The notions of production have had to be totally revised. Each company possesses intellectual capital (IC) which must be well managed and exploited in order to succeed. Knowledge circulates at every level of a business (human, structural, customers). An economy based on knowledge gives to a new type of business, new workers and new professions. This paper aims to demonstrate that IC is of a great value to organizations and firms and there is a need this value to be measured. Although there has been effort to this direction from an economic, mainly, perspective, as well as, from a managerial one, however, the context of IC value can not easily be determined in financial terms mainly due to peculiar nature of intangibility of IC elements, finally resulting in measurement problems. The present work is a literature review study of economic approaches to measurement of valuation of intellectual capital in an effort to demonstrate that financial and economic analysis provide some information about IC value but can not capture the whole picture of it. It also highlights on issues of IC context, on its competitive role, and generally on its contribution to organizations. It is recommended that more work has to be done to the direction of measurement placing more emphasis on issues and approaches that have not, or, to a limited extent, have been considered from economists.

1. Intellectual Capital: the new wealth of organizations

The popular use of the terms intellectual capital (IC), knowledge capital, knowledge organization, knowledge era, information technology, intangible assets, intangible management, hidden value and human capital hint at the increased importance knowledge assets have in organizations. These terms and others are part of a new lexicon describing new forms of economic value. They are descriptors belonging to a paradigm where sustainable competitive advantage is tied to individual workers' and organizational knowledge (Bontis, 2001). In today's complex and turbulent business environment companies are required to be flexible, highly innovative and able to develop proactive strategic approaches. To reach these aims many organizations have realized that knowledge (underlying capabilities) represents the most important factor in creating economic value that underpins a firm's value creation performance (Marr, Schiuma and Neely, 2002 as cited in Sudarsanan, Sorwar and Marr, 2003). Bontis (1998), Wang and Chang (2005), Kamath (2007) and other have proved the positive relationship between IC management and business output.

IC is considered as a strategic performance measure introducing a transition in thinking about a new structure and process supporting a company's productive assets (Bontis, 2001).

After the Industrial Age societies have entered the Information Age where wealth has become a product of knowledge. This knowledge has in turn become the most important production factor, assisting change and innovation, and yet it generally does not feature in a company's profit and loss account. This kind of change leads to transformations at every level in career paths, business hierarchies, strategies, managerial systems (Stewart, 1997).

1.1 Intellectual Capital: Organizational learning & change

Stewart (1997) defines intellectual capital (IC) as the intellectual material that has been formalized, captured, and leveraged to create wealth by producing a higher-valued asset. Following the work of Bontis (1996; 1999; 1998; 2001), Seetharamanet. al.,(2004), Flostrand, (2006), Kamath, (2007), Roos, Roos, Dragonetti and Edvinsson (1998), Stewart (1991; 1994; 1997), Sveiby (1997), Edvinsson and Malone (1997), Saint-Onge (1996), Sullivan and Edvinsson (1996) as well as Edvinsson and Sullivan (1996) among others, IC is defined as encompassing: 1. human capital; 2. structural capital; and 3.relational capital.

These sub-phenomena encompass the intelligence found in human beings, organizational routines and network relationships respectively. This field typically looks at organizational knowledge as a static asset in an organization - a so-called stock. This concerns many theorists who are also interested in the flow of knowledge. Furthermore, intellectual capital research does not cater to changes in cognition or behavior of individuals which is necessary for learning and improvement. The field of organizational learning has an extensive history in dealing with these limitations. Change is the only constant variable in business today (Senge,1990). Kanter (1989) notes that organizations attempt to develop structures and systems that are more responsive to change. The field of organizational learning has thrived in this context because managers believe that the more they learn about change and learning itself, the better they will be in handling it and the better their firms will perform (Miller, 1996).

For the most part, researchers generally agree that individual learning is a necessary precursor to learning at a higher level Greeno, 1980). Some theorists support group level learning as an alternative to the limitations of individual learning. Group knowledge is not a mere gathering of individual knowledge. The knowledge of individual members needs to be shared and legitimized through integrating interactions and information technology before it becomes group knowledge (Tsuchiva, 1994). Once organizational teams integrate their own respective learning, learning at the organizational level starts. This level of the IGO (individual-group-organizational) framework highlights the importance of the learning that resides in the organization's systems, structures, procedures, routines, and so forth (Fiol and Lyles, 1985). This level of organizational learning requires the conversion of individual and group learning into a systematic base of organizational intellectual capital (Shrivastava, 1986 as cited in Bontis, 1999).

All business leaders should be appreciative of the power IC can have on business performance. The study of IC stocks and their exponential growth due to organizational learning flows produces a tremendous amount of energy, energy that can take companies far beyond their current vision (Bontis, 1999).

2. Intellectual capital: Definitions and classification

Marr and Schiuma (2001, as cited in Sudarsanan, Sorwar and Marr, 2003, p.1) define intellectual capital

(IC) as "the group of knowledge assets that are attributed to an organization and most significantly contribute to an improved competitive position of this organization by adding value to defined stakeholders". There is some confusion over how IC differs from intangibles, intangible assets or intellectual property. Another term to describe the same assets is knowledge assets. In this paper we use the terms intangibles, IC, intellectual assets and knowledge assets interchangeably. Intellectual property (IP) is a subset of IC. IP comprises assets such as patents, copyrights and trademarks and its property rights are established under the law and ownership of IP may be transferred. Often there may be a secondary market in IP. In contrast, other intangibles such as goodwill, R & D, organizational capital etc may be too embedded within organizations to be tradeable separately. Their ownership may, however, be transferred as part of the organization in which they are embedded.

IC is a broad concept that is often split into different categories – most commonly human, relational and structured capital. Knowledge assets are seen as a resource that underpins capabilities, which in turn can be transformed into core competencies. Subsequently, these core competencies allow organizations to execute (and identify) their strategy in order to achieve better business performance. The attempt to operationalize the concept of knowledge has led academics as well as practitioners to define new concepts to identify, classify and manage knowledge resources of organizations. In order to define knowledge assets one needs taxonomies which facilitate an understanding and help evaluating such organizational components (Edvisson and Malone, 1997; Stewart, 1997; Williams and Bukowitz, 2001 as cited in Sudarsanan, Sorwar and Marr, 2003). A popular taxonomy used is based on earlier classifications provided by a research stream on IC and intangible assets (Stewart, 1997; Roos *et al.* 1997; Lev, 2001; Stewart, 2001; Sveiby, 1997; Brooking, 1996). However, taking a '*knowledge based' view* of the firm these taxonomies where brought together to build a comprehensive framework: the *knowledge asset map* (Marr and Schiuma, 2001; Schiuma and Marr, 2001; Marr *et al.* 2002, as cited in Sudarsanan, Sorwar and Marr, 2003).

Most classifications of knowledge assets (and IC) proposed in the management literature are particularly useful for accounting and external reporting purposes. However, they do not necessarily provide managers with meaningful tools to manage the company's knowledge from an internal perspective. The *knowledge assets map* developed by Marr and Schiuma (2001, as cited in Sudarsanan, Sorwar and Marr, 2003) provides managers with a broader framework to evaluate the organizational knowledge from both an external and internal point of view. It is based on a broader interpretation of IC addressing the assessment of all knowledge assets in a company. The knowledge assets map facilitates the identification and definition of the critical knowledge areas of a company. It is based on an interpretation of a company's knowledge assets as the sum of two organizational resources: stakeholder resources and structural resources. This distinction reflects the two main components of an enterprise, (1) its actors, who can be internal or external to the organization, and (2) its constituent parts, i.e. the elements at the basis of the organization's processes. Stakeholder resources are divided into stakeholder relationships and human resources. The former identifies all external actors of a company while the latter represents internal actors. Structural resources are split into physical and virtual infrastructure, which refers to their tangible and intangible nature respectively. Finally, virtual infrastructure is further sub-divided into culture, routines &

practices, and intellectual property. The six categories of knowledge assets identified by the knowledge assets map are defined in further detail below.

Stakeholder relationships include all forms of relationships of the company with its stakeholders. These relationships could be licensing agreements, partnering agreements, financial relations, contracts and arrangements about distribution channels, as well as informal relationships. The stakeholder relationships also include customer loyalty, company names and brand image, which represents a fundamental link between a company and its stakeholders.

Human Resource contains knowledge provided by employees in forms of competence, commitment, motivation and loyalty as well as in form of advice or tips. Some of the key components are know-how, technical expertise, and problem solving capability, creativity, education, attitude, and entrepreneurial spirit.

Physical infrastructure comprises all infrastructure assets, such as structural layout and information and communication technology like computers, servers and physical networks.

Culture embraces corporate culture and management philosophies. Some important components are the organization's values, the networking practices of employees as well as the set of mission goals. Culture is of fundamental importance for organizational effectiveness and efficiency since it provides the organization's members with a framework in which to interpret events. The culture provides organizations with a framework that encourages individuals to operate both as an autonomous entity and as a team in order to achieve the company's objectives.

Practices & Routines include internal practices, virtual networks and routines, i.e. tacit rules and procedures. Some key components are process manuals providing codified procedures and rules, tacit rules of behavior as well as management style. Practices and routines determine how processes are being handled and how workflow processes flow through the organization.

3. Intellectual capital and competitive strategies

According to a '*resource-based view'* of competition, IC is considered as an important source of competitive advantage. In their article introducing the dynamic capability approach Teece *et al.* (1997, as cited in Sudarsanan, Sorwar and Marr, 2003) distinguish (a) models of strategy as emphasizing the exploitation of market power, such as competitive forces (Porter, 1980 as cited in Sudarsanan, Sorwar and Marr, 2003) and strategic conflict (Sharpiro, 1989 as cited in Sudarsanan, Sorwar and Marr, 2003), and (b) models of strategy emphasizing efficiency, such as the resource based perspective (Penrose, 1959; Wernerfelt, 1984, as cited in Sudarsanan, Sorwar and Marr, 2003) and the dynamic capabilities approach. For the research presented in this article we take a strategy view of emphasizing efficiency consistent with the Schumpeterian view of the world. This view of innovation-based competition, increasing returns and development of strategic competence was first framed by Edit Penrose (1959, as cited in Sudarsanan, Sorwar and Marr, 2003) and then later picked up by Birger Wernerfelt (1984, as cited in Sudarsanan, Sorwar and Marr, 2003) and Richard P. Rumelt (1984, as cited in Sudarsanan, Sorwar and Marr, 2003) who are seen as developers of the modern resource based view of the firm (Foss, 1997, as cited in Sudarsanan, Sorwar and Marr, 2003). The resource based view understands firms as heterogeneous

entities characterized by their unique resource bases (Nelson and Winter, 1982, as cited in Sudarsanan, Sorwar and Marr, 2003) with different distinctive competencies (Selznick, 1957, as cited in Sudarsanan, Sorwar and Marr, 2003). This means that strategist had to move away from a black-box view of the firm and match external opportunities with company's capabilities (Andrews, 1971, as cited in Sudarsanan, Sorwar and Marr, 2003). Furthermore, transaction cost theories show that organizations should concentrate on core capabilities and not necessarily use excess capabilities to enter a multi-product or diversification strategy (Teece, 1980; Montgomery and Wernerfelt, 1988, as cited in Sudarsanan, Sorwar and Marr, 2003). This means that firms need to strategically develop their resources in order to gain a competitive advantage and therefore increase their performance (Petergraf, 1993, as cited in Sudarsanan, Sorwar and Marr, 2003). Firms need to identify and develop the competencies and capabilities which drive their performance (Prahalad and Hamel, 1990; Teece *et al*. 1997, as cited in Sudarsanan, Sorwar and Marr, 2003).

All organizational capabilities are based on knowledge (Marr and Schiuma, 2001; Winter, 1987, as cited in Sudarsanan, Sorwar and Marr, 2003). Hence, knowledge is a resource that forms the foundation of a company's capabilities. The ownership of specific knowledge provides organization with specific capabilities (Leonard-Barton, 1992; Prahalad and Hamel, 1990, as cited in Sudarsanan, Sorwar and Marr, 2003). This means that the ownership of knowledge enables specific capabilities and therefore only the management of this knowledge allows an organization to identify, maintain and refresh its competencies over the time. The basis of the knowledge-based view of the firm is therefore the fact that competition is based on capabilities and competencies (Stalk *et al*. 1992, as cited in Sudarsanan, Sorwar and Marr, 2003) which are underpinned by knowledge (Grant, 1997; Grant, 1996a; Grant, 1996b; Spender and Grant, 1996; Spender, 1996b; Skyrme,1996, as cited in Sudarsanan, Sorwar and Marr, 2003).

The performance capacity of a company is hence based on the knowledge of its people (Savage, 1990, as cited in Sudarsanan, Sorwar and Marr, 2003) as well as on the collective or organizational knowledge (von Krogh *et al*. 1994, as cited in Sudarsanan, Sorwar and Marr, 2003). This explains why companies are thriving to become learning organizations pursuing the objective of continuous development of their knowledge assets (Senge, 1990 as cited in Sudarsanan, Sorwar, and Marr , 2003)).

4. Intellectual assets, growth opportunities and value of a firm

A firm's value is made up of contributions from the various components of its asset portfolio. Physical assets and monetary assets generate income, profits and cash flows by enabling it to produce, market and sell its goods and services. These are sold to identifiable customers in existing markets. On the other hand certain types of assets do not have immediate and measurable payoffs. Investments in these assets are aimed to enable the firm to produce goods or services some time in the future but the outcomes are subject to much uncertainty. Thus these investments are intended to secure and exploit future growth opportunities (Sudarsanan, Sorwar and Marr, 2003). Thus:

Firm value =   value of assets in place

+ value of future growth opportunities from assets already in place

+ value of future growth opportunities from new assets

An example of the second component is a patent that resulted from R & D investments already made. An example of the third component is a product that may be discovered or developed from future investments that may be made. Both the second and third components are largely path-dependent and derive from the firm's accumulation of resources and capabilities from past investments although occasionally, a firm may chance upon these growth opportunities. Future growth opportunities allow a firm to create new knowledge leading to new products and services and new markets hitherto unknown. In the words of Hamel and Prahalad (1990, as cited in Sudarsanan, Sorwar and Marr, 2003), while assets in place and the growth opportunities they create enable a firm to compete for the world as it exists, future investment in assets that can generate growth opportunities enable a firm to compete for the future.

Research and development leading to innovations must be valued for their potential contribution to the generation of valuable growth opportunities. Investments in activities to generate future growth opportunities may lead to subsequent investments in intangibles as well as tangible assets necessary to exploit the growth opportunities. Thus research investment is the first stage of a sequence of investments. The first stage investment is somewhat speculative with no guarantee that it will successfully result in exploitable growth opportunities e.g. a new design, drug or process. In making the first stage investment a firm is merely buying an option. Valuation of the first stage investment cannot be completed without valuing the payoffs from the subsequent stage investments. In valuing the initial investment as an options we also have to allow for the possibility that in certain unfavorable states of nature i.e. when it is not worthwhile to continue to maintain the option it may be abandoned (Sudarsanan, Sorwar, and Marr , 2003).

5. Intellectual Capital: (value) measurement problem

Why organizations seek to measure IC? Five many reasons have been identified (Marr, Gray and Neely , 2003), implying that, IC value should be linked to these:

(1) help organizations formulate their strategy;
(2) assess strategy execution;
(3) assist in diversification and expansion decisions;
(4) use these as a basis for compensation; and finally
(5) communicate measures to external stakeholders.

Although IC represents an element of business that has existed for years, as a concept was introduced in the early 1990s for identifying intangibles in the light of value creation and performance (Bygdas *et. al.,* 2004). Although it is quickly becoming more important in understanding and measuring its value in today's typical firm as there is a genuine understanding of the economic value of idea, identifying the intellectual capital of a company is not easy, and requires a strategy to be defined beforehand (Johnson, 1999). Acknowledgement of the importance of knowledge is not enough; it must also be managed and tangible results obtained. The first problem is to define the intellectual material (intangible ones) which must be accounted for. To do so, it must be determined for what purpose it is to be used, and, definitely it is essential, transitory, daily information and the genuine intellectual capital to be distinguished (Stewart, 1997).The second problem is to define the 'type' of value of intellectual capital that can be estimated,

considering as well, Johnson's (1999) statement «…all elements with the potential to increase wealth are valuable» (p. 563).

The resource based view of the firm considers the sustainable competitive advantages of the firm to be dependent on the internal resources the firm has at its disposal (Barney, 1986a; Wernerfelt, 1984). Many of these resources are characterized by an intangible quality. Actually, this may be the basis for their ability to create sustainable competitive advantage as they produce barriers to imitation through the causal ambiguity induced by their tacit, complex and specific nature (Reed and DeFillippi, 1990). As such, there has been a drive to develop an analysis of the intangible assets that make up these resources that are seen as key in determining the strategic management process of the firm (Hall, 1992; Barney, 1991). Barney (1991), stating that «Firm resources can only be a source of competitive advantage…when they are valuable» (p.6) identified four empirical indicators of the potential of firm resources to generate sustained competitive advantage. These were value, rareness, imitability, and substitutability. However, the difficult position for most firms trying to analyze their strategic resources is in attempting to determine theactual or potential value of the intangible assets of the firm.

Traditionally, the value, or potential value (wealth) of a firm was seen in its ability to create a reasonable return through the use of tangible assets. In a mass manufacturing based-economy, the relatively small amount of value not explained by the efficient use of tangible assets amounted to an ethereal entity that accountants simply labeled 'goodwill' and that was largely ignored (e.g. goodwill was recognized *on the books* only after the purchase of a firm at a price above its book value before the acquisition). However, with the growth of knowledge-based economy, the potential value that this 'goodwill' represents is growing quickly. Some estimates have this value approaching 75% of the firm's total market value. Using the qualifier of potentiality in the definition of value addresses a major problem confronted in determining the value of many intangible assets. Although it may be difficult to measure an intangible asset's net present value that doesn't mean that the asset isn' t valuable. The true indicator of the asset's potential to produce`wealth may be found in its expected value – a more elusive measure of value stemming from a decision making expected utility model and calculating using the probabilities of various states of nature (Johnson, 1999).

6. Intellectual Capital valuation methods

Some of the economicsbased methods to valuate intellectual capital are (Ortiz, 2006):

Return over Assets (ROA) uses the average pre-tax earnings of a company for three to five years. This average earning is then divided by the average tangible assets of the company over the same period of time. The resulting ROA is compared with the company's industry average to calculate the difference. If this difference is zero or negative, the company does not have an excess of intellectual capital over its industry average. So the value of intellectual capital is assumed to be zero. If the difference between the company's ROA and its industry average is positive, then the company is assumed to have excess intellectual capital over its industry.

This excess ROA is then multiplied by the firm's average tangible assets to calculate an average annual excess earning. Dividing this excess earning by the company's average cost of capital, one can derive an estimate of the value of its intellectual capital.

Market Capitalization Method (MCM) is based on the capital markets premium. This method

reports the excess of a company's market capitalization over its stockholders' equity as its intellectual capital. To more accurately calculate MCM, the historical financial statements must be adjusted for the effects of inflation or replacement costs. Using historical data may distort the measurement, particularly in industries with large balances of old capital assets such as steel companies.

Direct Intellectual Capital Method (DIC) is based on measuring the value of intellectual capital by first identifying its various components. Once these components are accurately identified, they can be directly evaluated. It focuses on components of market assets such as customer loyalty, intangible assets, such as patents, technology assets such as know-how, human assets such as education and training, and structural assets such as information systems. Once these components are all measured, they can be aggregated to derive the total value of a company's intellectual capital.

Knowledge Capital Earnings (KCE). Proposed by Baruch Lev (2001 as cited in Ortiz, 2006) first one needs to normalize earnings 3 years before and the forecast for 3 years after. Subtracting the income caused by intangibles from the normalized earnings there is a portion of non-accounted earnings. This amount represents knowledge capital earnings and can be used for different ratios such as intellectual capital margin KCE/ sales, and operative knowledge capital margin KCE/ net income.

The multiple linear regression model proposed by Nevado and López (2002, as cited in Ortiz,

2006) of the following form:

MCM=X1*(CH*iH)+X2*(CP*iP)+X3*(CC*iC)+X4*(CM*iM)+X5*(CI+D*iI+D)

Where:

- MCM is the market capitalization method (market value-book value).
- C are absolute monetary indexes related to investments done in some of the 5
- following fields:
- HC Human Capital (Salaries + Training investments)
- PC Processes Capital (preventive maintenance investments + Evaluation investments + Facilities investments)
- CC Commercial Capital (Investments to customers + Outsourcing
- Investments)
- CM Communicational Capital (Marketing Investments)
- CI+D Innovation Capital (Research investment + Patent investments +
- Software andhardware investments)
- it is an efficiency average of the above
- As an example that contains the following efficiency indicators: market quota, 1-(salaries/sales), social action index, 1-(temporal employees/plant employees), 1-resigned+fired/#employees), motivation index, promotions/# of positions.
- The model does not assign monetary values to the IC components; it is based on efficiencies and investments.
- It could be useful to explain how IC behaves as well as the interaction and significance of every factor.

Tobin's q (2001, as cited in Ortiz, 2006) compares the market value of an asset with its replacement cost. If q is less than 1 then it isn't probable that a company would buy more assets of that kind. If an asset were worth more than its replacement cost, the company would invest in a similar asset. It is a cost based approach.

Economic Value Added (EVA) measures the monetary surplus value created on an investment. It is calculated using the following formula: EVA = (Return on Capital - Cost of Capital) (Capital Invested in Project)

Balance Scorecard is a management system that balances the financial perspective considering internal business processes and external outcomes of the business. Developed by Kaplan and Norton (1996) they described it as: "The balanced scorecard retains traditional financial measures. But financial measures tell the story of past events, an adequate story for industrial age companies for which investments in long-term capabilities and customer relationships were not critical for success. These financial measures are inadequate, however, for guiding and evaluating the journey that information age

companies must make to create future value through investment in customers, suppliers, employees, processes, technology, and innovation." The Balance Scorecard considers the customer, financial, internal business processes and the learning and growth perspectives combined with the company's vision and strategy

6.1 Valuing intellectual assets: traditional , static, dynamic & real option models

The traditional valuation tools such as relative valuation multiples, price earnings ratio or enterprise value do not fully capture how intellectual capital contributes to firm value. Although the discounted cash flow represents a more sophisticated approach to valuation than one based on multiples, it does not adequately or correctly address the complexities that intellectual capital-based competitive strategies engender (Sudarsanan, Sorwar, and Marr 2003).

Sudarsanan, Sorwar, and Marr (2003) approach the valuation of intellectual assets through the concept of real options presenting first the categories of valuation models:.

Traditional valuation models

To value any asset there is a need to identify an income stream clearly identified with

that asset. Alternatively the value of that asset may be determined through buy-and-sell transactions in a market.

Valuation models may be broadly divided into two kinds:

- Models that estimate the aggregate value of IC at a point in time. They thus estimate the value of the accumulated intellectual assets. We may cal them static models.
- Models that value the investments in intangibles each at a time. Discounted cash flow models and real option models belong in this group. We may call these dynamic models.

Static valuation models

Residual income model

A major problem with intellectual assets is their embedded nature that disallows the development of secondary markets. They are part of a bundle of physical, financial and intellectual assets. One approach is to value the bundle as a whole and then subtract the values of the physical and financial assets to arrive at the value of the intellectual assets. The residual earnings are then attributed to intellectual or knowledge capital and capitalized at an appropriate discount rate that is derived from correlation analysis of IC earnings and equity returns.

This methodology, while innovative, may be subject to criticism since the choice of expected return rates for various components of capital are somewhat arbitrary. More importantly, the value derived from this procedure represents the collective value of all the intangibles the firm possesses and does not identify the values of the individual components of IC. Further, it is not clear how, not just how much, IC contributes to firm value. The process by which IC creates value is not delineated. The IC value is derived from a fairly static picture of the composition of a firm's assets. What is missing is the dynamic nature of some of the IC investments.

Dynamic valuation models

Discounted cash flow model

In contrast to the 'residual income' approach to IC valuation , the discounted cash flow (DCF) model in corporate finance projects the cash flows from investment in a particular asset throughout the economic life of that assets discount these cash flows at an appropriate discount rate. The present value of the

investments in the assets are subtracted to give the net present value of that investment. However, the DCF does not accommodate the option like nature of certain corporate investments and ignores managerial flexibility.

DCF is thus a model that best captures the value of assets in place that generate relatively stable or predictable cash flows. It is a model that may still capture the growth opportunities arising from these assets in place. It is a model for those corporate investments that facilitate 'competing for the world' rather than 'competing for the future'.

Real option models -. Intangibles as real options

While not all intangible assets share real option characteristics many of them are in essence real options that firms create through their activities, organic investments or acquisitions. Among these are:

- customer relationship arrangements such as joint ventures, licensing agreements as well as informal relationships;
- investment in human resources such as education, training & development, domain expertise, creativity, problem solving capability, entrepreneurial spirit, and ability to work in teams;
- investment in information technology for knowledge management and enhancement of the capability to exploit organizational learning, expertise and resource;
- investment in developing a unique culture that increases managerial flexibility, organisational learning, creativity;
- practices and routines that identify growth opportunities and facilitate exploitation of such opportunities
- intellectual property such as patents, copyrights, trademarks, brands and registered designs.
- Research and development.

Investments in these intangibles do not generate immediate payoffs. Indeed they are considered costs and often expensed in company accounts. But they are often small, exploratory and speculative investments made in expectation that they will lead to new growth opportunities and unique competitive advantages. Some of them create switching options that allow the firm to switch existing resources to alternative uses e.g. customer relationship information that allows the firm to switch its focus on from low value customer segments to high value customer segments.Regarding this approach, it is explored how intangible assets that have come to dominate the valuation of many firms can be valued using advances in real option valuation. The philosophy of this approach is the rising proportion of intangibles in the overall value of firms, problems in identifying, measuring and valuing such intangibles, and the inadequacies of traditional valuation tools. Intangibles in general contribute to frms' competitive advantage and value creation as they give rise to growth opportunities. Exploitation of these growth opportunities require investments and whether such investments will be made depends on the result of initial investments to develop the intangible assets. Thus intangible assets represent on options to pursue growth or to abandon such opportunities. Given this fundamental similarity alternative real option valuation models can be set to illustrate how some of the intangible assets may be valued.While it is conceptually easy to regard some if not all intangibles as real options, in practical application estimating some of the model parameters may be difficult. Even the real options framework may not provide easy solutions to the problem of intangible

valuation, it still provides a challenging way of thinking about intangibles, their nature and how they contribute to value creation (Sudarsanan, Sorwar, and Marr, 2003).

7. Measuring the stock and flow of intellectual capital components in the firm

Johnson (1999) developed a framework (Figure 1) based on the IC concept that can be used to identify and measure the stock of intangible resources that have the potential to give the firm a sustainable competitive advantage. IC is the collection of elements of intangible assets that utilize human intellect and innovation to create wealth. It has been displayed that the elements of IC can be measured both integrating internal data on stock and perceptual data obtained through survey work. While some elements of IC, such as Innovation Capital stocks, lend themselves well to the use of internal data, others, such as Relational Capital, are socially embedded and should be measured applying techniques designed to extract the perceptions and understanding of important stakeholders. The intangible nature of the types of assets that make up the IC framework makes mere counting of stock extremely difficult. Even an intangible asset that can be physically counted, such as number of patents, gives an estimation of limited value without taking into account the use such patents have in providing sustainable competitive advantage for the firm. Two general measurement techniques for determining quantitative and qualitative indicators of the stock value of IC elements in the firm were identified. The first is the physical measurement of stock using internal accounting data that is for the most part non-financial. The second is the use of sociological measurements applying survey techniques of internal and external observers. There may be some trepidation in applying some measures to determine the value of these assets. However, considering the intangible nature of these assets, these measures are considered most appropriate.

Future work regarding exploration of a relationship between chosen measures and financial outcomes will need to be determined to make the approach more precise, effective and valuable for any firm. However, given the definition of value as the potential to produce wealth (Johnson, 1999), the most crucial issue refers to identifying the potential for producing wealth not the actual production of wealth, as well as, that something may be extremely valuable in one state and valueless in another. Concluding, the concept of expected value as the sum of the probability of several states in nature, should be studied. All potential value is predicated by probability, or possibility, of any particular state of nature, and thus, actual value involves risk and luck. This factor should also be considered when valuing much of the intangible assets of the knowledge firm. Capital elements may be valuable just as investments but they do not come to the firm without risk. There will be various states in nature where utilization of intangible assets produces wealth with each determined by a probability or likelihood of happening.

The contribution of this IC measurement approach relied on the development of useful indicators of IC stock value that correlate well with financial success, being valuable in this way for the firm. The pertinent point, generated from a Balance scorecard philosophy, is that non financial indicators can be valuable in tracking performance as long as they are connected to strategic goals of the firm which are ultimately financial in most cases. As this approach emphasizes on the stock of intangible assets that provide value to the elements which play an important role in producing wealth within the

knowledge-based firm and their value is being measured by application of the Balanced Scorecard method, however, the flow and interaction of these assets are probably more important in the creation of real wealth for the firm. Johnson (1999) suggests that the real potential for value is in the systemic interaction of the various elements of the framework, where in combination with more tangible measures may be useful in determining individual circumstances and thus the individual firm's ability to create a sustainable competitive advantage. Thus, future work into the concept should take a systems approach where a system can be defined as a whole being consisted of parts that interact with each other (Senge, 1990; Kauffman, 1980). Although these interactions might be potentially complex, however, they may be simple when compared to the actual interactions occurring in the firm environment where make possible the individual analysis of any particular firm and the measurement of value inherent in the system. So, each firm can examine its own situation using a combination of both tangible measures and in depth examination of interaction patterns among the different elements of IC.

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                          ┌──────────────┐
                          │   Market     │
                          │   Value      │
                          └──────────────┘

        ┌──────────────┐                    ┌──────────────┐
        │  Financial   │                    │ Intellectual │
        │  Capital     │                    │  Capital     │
        └──────────────┘                    └──────────────┘

  ┌─────────────────┐      ┌──────────┐  ┌────────────┐  ┌────────────┐
  │ Tangible Assets │      │  Human   │  │ Relational │  │ Structural │
  │ Balance Sheet   │      │ Capital  │  │  Capital   │  │  Capital   │
  │ Income Statement│      └──────────┘  └────────────┘  └────────────┘
  └─────────────────┘
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Ideas Capital Capital

Leadership Capital

Cultural Capital

Intangible Assets
Experts, Managerial
Competence

Innovation
Capital

Process
Capital

Intangible Assets
Knowledge Based
Workforce
Employee   Attitude

Intangible Assets
Customer Relations
Supplier Relations
Relationship Networks

Intangible Assets
Patents, Trademarks,
Knowledge databases

Intangible Assets
Work processes
Trade Secrets

Figure 1 Intellectual Capital framework: its relationship to market value (Johnson, 1999). According to this framework there are three elements of IC: 1. The Human Capital, as the force behind the human intellect where all human ideas and innovations first emerge, 2.The Structural Capital, as the structural ability of the firm to utilize human intellect and innovation to create wealth, that allows for the creation of wealth through the transformation of the work of Human Capital, 3. The Relational Capital, as the ability of the firm to interact positively with business community members to stimulate the potential for wealth creation by enhancing Human and Structural Capital. General types of intangible assets associated with each element are mentioned as well (see appendix, Figure 2).

8. The nature of liabilities and the misunderstanding of intangible liabilities

The recent interest of understanding the possible existence of intangible liabilities makes necessary to start from the basics and clarify terminologies. In accounting a liability is a claim on the assets (therefore decreasing its value) of a company or individual excluding ownership equity. It represents a transfer of assets or services at a specified or determinable date. The firm or individual has little or no discretion to avoid the transfer. Liabilities represent what the business owes to another person or entities known as creditor and it is also possible that the event causing the obligation has already occurred (Ortiz, 2006).

Trying to compare the management term "Intellectual Capital" to the accounting "capital" or "equity" term and applying the Intellectual Capital =Intellectual Assets-Intellectual Liabilities analogy is a misunderstanding of the Intellectual Capital=Intangible Assets concept and evolution explained before (Ortiz, 2006).

It would also be a concept misinterpretation trying to explain the decrease of an intangible asset value due to the existence of an intangible liability by the simple inexistence of a creditor that would receive the intangible assets transferred. The intangible asset variation value is better explained by an appreciation or depreciation due to the context (market forces, speculation, etc) and the effective or ineffective use/management of them. When concepts like bad public image, bad word-of-mouth, weak strategic planning processes, dangerous work conditions, potential environmental cleanup, potential product tampering or poor corporate reputation are tried to be considered as intangible liabilities it should be noticed that they are only the ineffective use of the intangible asset in some cases and in others are only potential expenses, but in any case a creditor would exist. Neither potential expenses nor ineffective asset use should be considered as intangible liabilities because they differ in their nature. It is understandable that as in accounting the two reasons why an asset varies its value are liabilities and expenses, an analogy for intangible assets might work too, but it doesn't.

Then, what could be considered as an intangible liability? An immaterial payment promise, which decreases the value of the intangible assets by giving part of them to a creditor.

8.1 Context, the source of intangible value variation

From a managerial point of view, is possible to address the variation issue considering the context where interrelated conditions occur. It should be considered that as in many other assets, the valuation of an intangible is a matter of perception. Some of the components of the intellectual capital are rational, directly measurable, but others are of an affective and perceptive nature.

The importance of context when valuating IC has been briefly suggested in papers by Rodov and Leliaert (2002). They expressed that management should assign the values they considered appropriate to IC according to the company. Also Chaminade and Johanson (2003) addressed the perception difference regarding to knowledge management in two different companies at two different European countries. Context should involve time (when the value of IC is measured) and location (depending on the region IC will vary). As tangible assets, the components' value of IC will vary depending on the moment and the region where they are. Some assets are more valuable in one region (state, country, hemisphere, etc.) than in other due to perception, resources, supply, demand, fashion, etc. Even for companies with almost everything equal if they are in different regions, the IC value will vary.

So far, the usual method to assign a value for an intangible and identify its variation has been a financial/accounting linear approach, which doesn't consider the interaction of all the variables that include intangibles, tangibles and the context. It is necessary to address the problem as a dynamic complexity where all the parts interact. Quantitative and qualitative models are needed to understand the behavior of intangibles and their valuation as a change in one part of the system affect the whole system (Ortiz, 2006).

IC fits the description of a system, which is a collection of parts organized for a purpose. The purpose of IC is the same as any other asset, to be a source of future benefits with the only difference that has no physical existence. IC as any other system, again, sometimes fails to achieve its purpose due to a lack of proper interaction, design or external disturbance. That is why IC value variations exist. From a system dynamics point of view the different identified components of IC interact with each other's as a system and the context constantly interacts as an input/output source, also as part of the system.   The context constantly affects each and every IC component causing disturbances and affecting the total value (Ortiz, 2006).

9. Discussion

Many models are financial valuation models that use money as unit of value(see appendix, Table 1). Economic Value Added™ is used for both improving internal management and external reporting. It is based on an analysis of the economic value that is added in a company, taking into account the cost of the capital needed to create that value.. Stewart (1997) states that measurements   could be useful for

improving internal management and external reporting that is important for organizations and shareholders and not only on the basis of money and cost. The calculated intangible value method is based on the assumption that the premium on a company's value is a result of its IC. Cost, market and income approaches are more 'traditional' approaches to financial valuation that are used for various transactional and statutory purposes. The cost approach is based on the principle that an investor will pay no more for an investment than the cost to obtain an investment of equal utility. The market approach is based on the principle that in a free and unrestricted market, supply and demand factors will drive the price of any good to a point of equilibrium. In the income approach the value of IC is the value of the expected economic income generated by this capital.

The intellectual capital audit is a method to internally manage intellectual capital. It uses a range of indicators that have yardsticks attached that represent the optimal state of the indicator. Only the balanced scorecard groups financial and non-financial indicators and accompanying norms .

Among these methods no value assessment methods were found. They do not use values, norms, or other yardsticks and we therefore cannot consider them valuation methods. Some claim to have a purpose in both improving internal management and external reporting thorough diagnosis is needed to determine the specified problem of the situation at hand. This is especially essential when the intention is to improve the internal management of an organization. There can be many reasons why a company is performing suboptimally or poorly. There can be many ways to optimize a company's performance. Valuation or measurement may or may not be the right solution. To check whether a valuation or measurement method is the right tool for the job the method should include a diagnosis phase. This phase is missing in all methods. As a result there is a clear danger that the methods turn out to be 'solutions in search of a cause'. Another problem is to define the intellectual material (intangible ones) which must be accounted for and in order do so, it must be determined for what purpose it is to be used, and, definitely it is essential, transitory, daily information and the genuine intellectual capital to be distinguished (Stewart, 1997). It is not easy economic terms to address such issues. The array of problems that is being addressed by many of the methods is so broad that is seems questionable whether they all can be solved using one method. Yet this is what some authors claim. The problem definitions of Edvinsson and Malone (1997), Stewart (1997), Sveiby (1997) and Roos et al. (1997) cover a number of different problem categories within both the internal management and the external reporting domain. They claim there methods are a 'jack of all trades'. More empirical evidence is needed about the effectiveness of these methods to cover such a broad selection of problems.

The absence of yardsticks may explain why Rylander et al. (2000 as cited in Andriessen, 2004) found that users in Sweden were not satisfied with the information on intellectual capital as it is presented in annual reports. "The link to value creation is unclear and the information is therefore perceived as difficult to interpret and does not provide deep enough insights to deliver any real value to users" .

Intellectual capital research suffers from too much focus on solutions and a lack of focus on organizational problems. Within the intellectual capital community not enough research has been done into the nature of the problems that valuation or measurement addresses. As part of the consolidation

process more evidence needs to be generated about the problems that can be solved using valuation or measurement methods. The methods themselves can be improved by adding a diagnostic phase that will allow users to identify what the problem in their organization is and to judge whether a specific method can help in solving it.

Finally, existing methods vary with respect to their approach. The language used is often not very consistent. A distinction should be made between financial valuation methods, value measurement methods, value assessment methods and measurement methods. As part of the consolidation process within the intellectual capital community, more research is needed into the strengths and weaknesses of each of these approaches, related to the type of problems that need to be solved. This must lead to a more complete and empirically grounded 'why' by 'how' matrix that can help practitioners to choose the right tool for the job (Andriessen, 2004).

10. Conclusion

The management of intellect lies at the heart of value in the current "knowledge era" of business. Continued research of this phenomenon should show that organizations with a high level of intellectual capital will be those in which the value-added service of the firm comes from deep professional knowledge, organizational learning. Managers, analysts and researchers should also be wary of looking for a formula of intellectual capital. By definition, the tacitness of intellectual capital may not allow analysts to ever measure it using economic variables. A warning must be sent out to those accountants and financial analysts who are asking the question, "How much is my intellectual capital worth?" A formula may never exist. That is not to say that metric development is a waste of time. Longitudinal examination of metrics as well as benchmarking against industry norms can help managers in examining their own intellectual capital. In this case, examining the processes underlying intellectual capital development may be of more importance than ever finding out what it is all worth (Bontis, 1998)

The above approaches showed the stage of research in each of the different areas that drive the measurement of IC. In order value of IC in organizations to be assessed, its contribution towards the target areas that are valuable for the organization should be approached theoretically and empirically. Financial indicators are theoretically oriented and not empirically tested. Many areas (such as measurement of IC contribution to strategy development, measurement of strategic intellectual capital influence on strategy formulation) have had little empirical research attention. It should not be neglected that Intellectual capital performance measures in compensation systems provide indicators of future business performance in contrast to what accounting measures provide (Marr, Gray, Neely, 2003). They are valuable in providing information for the evaluation and motivation of managerial performance. Is this, financially, be measured? Also, regarding the economic approaches to IC measurement, there is luck of attention on an in depth analysis of IC context examining as well the IC elements as a system that interact to each other.

In summary there is a need for broader theory to be built exploring in depth IC context and interactions among elements in a systematic manner. Baruch Lev (2001) states that to advance knowledge in the area of intangibles, "theoretical principles should be subjected to empirical examination and observation" Lev

(2001). The above discussion has revealed many research avenues which scholars might consider pursuing to take the field of IC measurement further (Marr, Gray and Neely, 2003).

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APPENDIX
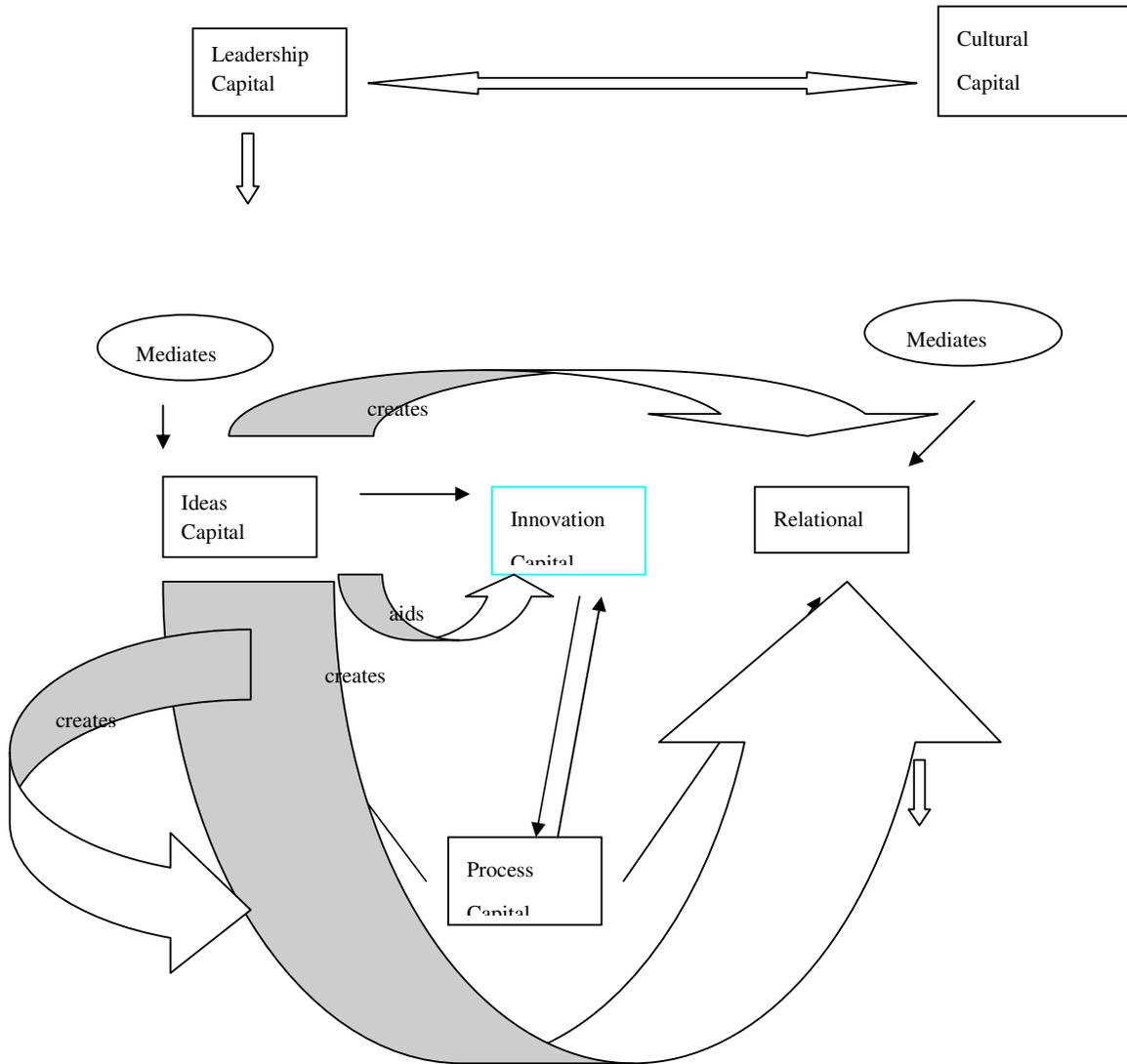
Figure 2. Intellectual Capital elements(Johnson, 199

Table 1. Classification of methods (Andriessen (2004)

WHY \HOW	Financial Valuation	Value Measurement	Value	Measurement

			Assessment	
Improving Internal Management	• Economic Value Added™ (Stewart III, 1994) • Market-to-book ratio (Stewart, 1997) • Tobin's Q (Stewart, 1997)	• Balanced Scorecard (Kaplan and Norton, 1992, 1996ab, 2001) • Intellectual capital audit (Brooking, 1996)	.	• Skandia navigator (Edvinsson and Malone, 1997) • Intangible asset monitor (Sveiby, 1997) • Intellectual capital index (Roos et al., 1997)
Improving External Reporting	• Economic Value Added™ (Stewart III, 1994) • Market-to-book ratio (Stewart, 1997) • Tobin's Q (Stewart, 1997)	.	.	• Skandia navigator (Edvinsson and Malone, 1997) • Intangible asset monitor (Sveiby, 1997) • Intellectual capital index (Roos et al., 1997)
Transactional &Statutory Motives	• Calculated Intangible Value (Stewart, 1997) • Cost, market and income approaches (Reilly and Schweihs, 1999) (Smith and Parr, 1994)	.	.	.

Integrating David programming model with Balance Scorecard (BSC) in order to decrease or eliminate the weaknesses of David's model and performance improvement (case study: Mahan air lines)

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Abstract

Nowadays in this competitive world lots of manufacturing and servicing companies have to resort to new management approaches. Among these, we can point to new approaches to performance evaluation that play signification role in improving the performance of an organization. Balance score card is a recent innovation management that evaluates the organization in four main aspects of management and its aim is provide a comprehensive view of business for managing directors. The purpose of this paper is to study the integratingDavid's Model with balanced scorecard and implementation of BSC in order to decrease or eliminate the weaknesses of David's Model and organization performance improvement in four perspectives. The chief executive officers of Mahan airlines are the statistical population of this research. This population includes 70 persons and the sample size of 60 persons is determined based on Cochrane formula and simple random sampling. The content validity and reliability was confirmed by calculation

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Cronbach's Alpha. The result of this research shows that integrating these two models significantly results in performance improvement and David's model weaknesses in our statistical population.

Key words: David's model, balanced scorecard, Mahan airlines performance, improvement

Introduction

In the last decade, global competition has risen quickly because of rapid changes in technology and extra diversity of products and it causes the organizations to focus the role of continuous improvement of performance as competitive and strategic needs throughout the world. Today organization extremely uses performance measurement, directions of evaluation, control and business processes improvement to keep and reinforce their competitive advantage.(Ghalayini , A.M & Noble ,J.S,1996) Nevertheless the recent studies show the facts that classic performance measurements based on accounting system are not sufficient (Wongrassamee ,P.D & Gradiner,J.E.L.simmons, 2003). For example, eight limitations of classic measurement that have been identified include: They have been based on classic costs management systems- using backward measurements- do not participate in strategy- performing them is difficult practically and they are inflexible and discrete, in conflict with the accepted theory of continuous improvement and ignore customer's need. The studies also find limitations related to classic production management and its strong focus on increasing productivity, cost reduction and increases in profit, that might somewhat decrease the attention to quality improvement, reliability delivery. As a result of these classic limitations, non-classical performance measurements emerged in the literature (Dixon, N.M & Et.al, 1990). These features were essentially related to organization strategy and based on non-financial goals. Therefore multidimensional and integrated performance management systems were developed.

According to performance measurement revolution we recognize two separated categories include ones that have self-measurement and another category consists of those new performance measurement systems that Design to help managers to measure and improve business processes called Balanced scorecard framework (Kaplan and Norton, 1992). In 1992 Harvard professor Kaplan and Doctor Norton published a paper about a new approach to performance measurement as balanced scorecard that was developed during a research project involving 12 companies (Ibid, 1992). The balanced scorecard consists of a set of criteria that gives managers also a quick perspective of their business. The balanced scorecard was known as the one of the useful, low error and effective 15 management tools until 2001 (Rigby k. 2001). and the number of its users added every day. Research shows about 70% of American companies utilize these tools or are looking to do it (Management Encyclopedia). The balanced scorecard evaluation approach helps organization to win over two key problems: evaluating the organization performance and strategy implementation. Introduction of balanced scorecard with attention to its promotion in 3 generations is to clear its vital duty to make connection between balanced evaluation approach measurements through a series of casual relationships(Niven R. Paul. 2008).

Research objective literature:

The strategies are focal point for organizations movements and inspiration for managers. The strategy of an organization is the manager's plan and instrument to obtain the market position, guide performances, customers' satisfaction, and success in competition and achieve the organizational goals. Chandler (1962): strategy is "to determine long-term and essential goal and purpose of a company". Child (1972):

strategy is a set of fundamental or sensitive choices about the result of an activity and its tools. Keyy (1999) Business strategy is about the coordination between potential and inner organization's capabilities and its external environment.Drucker (1995) defines strategic decision such as: All decisions concerning the organization targets and the ways to achieve them. (Rahimi, 2007) According to these definitions, strategic affairs called strategy if they have at least three conditions: 1. longtime lasting. 2. Be in a competition environment. 3. be crucial. Thus the strategy is a special kind of ways and approaches to achieve goals if these three conditions are met, it means that experts have different point of view about strategy segmentation because it is possible to classify them by different tastes and standards. It has been used to classifying types of strategies in the most practical method: 1.Main strategy 2. Sub strategy 3.Task strategy 4.Macro strategy.

Strategic management: in 1980 strategic management rose to make more coordination and solidarity in organization goals and certainty of operation and implementation of these plans (Ali Ahmadi, Ali Fateh Ali, Mehdi Taj Din, I. 2002). Facing various events such as organizational movement, market situation, empowering against competition, combining them and how to treat each one is understandable and traceable in strategic management concepts. Therefore, the main priority of management practices is to provide, design, execute and evaluate the strategy. Priority actions are: 1- The necessity forward-looking and the quality of business leadership 2- The necessity of attention to harmony and coordination (Thompson and Strickland 1982). Strategic management could be defined as: the art and knowledge of designing, implementing and evaluating of multi-functional decision that enable the organization to achieve its long term goals. Strategic management focuses some factorsto obtain organization success:

61

cooperation of management, marketing finance, production (performance) and research and development computer information system (David,F.R. 1999).Strategic management has three levels: Definition of the strategies, implement the strategies and evaluation of the strategies. William Wirden from Hershi Company knows the reason of his company success in strategic management and say: the path of company's life is determined by planning for long periods of time and we undoubtedly are going to rely on this procedure and reinforce it in the future(David,F.R. 1997). The abstract of preparation and definition of a good strategy is to make sufficient strong position in market and sufficient empowerment to achieve successful performance despite the events, delays and unforeseen cost (Bakhtiari,P. 1982). Strategic management is a term to describe decision-making and operating process. It includes the decision procedure and tasks which lead to the creation of one or more effective strategies to achieve the goals. (Ali Ahmadi, Ali Fateh Ali, Mehdi Taj Din, I. 2002).

Strategic planning: definition of strategy can be done in different ways in different organizations that one of the styles is strategic planning. Strategic planning process provides an attitude and analysis of the organization and its environment. It explains current situation of the organization and identifies effective key factors of success (Fry.L, Fred & Stoner.R, Charles.1995).   Definition of strategy in David planning model contains five steps:

 1. Determining the organization mission

2. Studying external factors of the organization

3. Studying internal factors of the organization

4. Determining the long-term goals of the organization

5. Evaluating quantity of different option of identified strategies toadapting internal and external factors and selecting the best one (designing, evaluating, choosing strategies) (David,F.R. 1999). Although determining strategic and operating plans is a difficult and complex process but it is harder to run Successfully. Many organizations failed to execute their full strategies. This is not because of designing of strategies and performance planning of the organization, but perhaps the lack of a strong framework to integrate personnel's and process operation into organization goals makes this fail (Creelman,j.Markhijani,N. 2008). controlling and evaluating strategy is a process that should be considered as an approach to determine limitations of achieving strategic goal(Ali Ahmadi, Ali Fateh Ali, Mehdi Taj Din, I. 2002). one of the important steps of strategic management in organizations is evaluating and control. Performance measurement is a result of strategic and operational planning and considers feedbacks and its necessity and importance to the organization (Rokni Nejad, Mehrdad.2008). Today one of the manager's duties is to define a strategy which brings a competitive advantage for the organization. Manager's operational procedures to execute designed strategy successfully are the most important element of an effective and qualified management, this is necessary in addition to arrange and provide the required team. A good strategy and its successful execution are the most reliable signs to recognize an efficient management. The strategy's value depends on two factors: first how much it makes us competitive advantage. Second how much it costs our competitor to fill this gap between us. Both of these factors refer to nature of opportunity and its origin. And opportunity means causes of advantage incompletely. There is "potential" opportunity for everyone but actual opportunity belongs to specific persons and organization who complete the opportunities factors (Rahimi, GH. 2007).

The second part of David planning model is to execute the strategies. This part also has 2 steps. In the first step the annual organization goals are defined according to chosen strategy that will be the basis for budget allocation and evaluating the manager's performance and monitoring the progress of tasks and determining their priorities then, the organization policies is set up by these annual goals. The organization policies clear the expectations of staff and managers and it causes the success rate increases (defines annual goals and policy) in the second step, required resources and facilities for executing the strategy in organization is allocated. Resource allocation in organization often occurs as budgeted costs and human resource, however other resources might be necessary for executing the strategies (resource allocation) (Ali Ahmadi, Ali Fateh Ali, Mehdi Taj Din, I. 2002). The third part of David's strategic planning approach is evaluating the strategies that happen in last step. In this step, an active information system is used to evaluate and analysis the process of implementing the strategy to correct any problems that could occur in the way of execution (calculating and evaluating the performance measurement). David's strategic planning model: mission, vision and value statements- external threats and opportunities analysis- internal, weakness, threats and opportunities analysis- define long term goals- define evaluation and choose strategies- define annual goals and policies- resource allocation calculating and evaluating the performance measurement- This is David strategic planning model, strategic management. According to this model strategic management has three main parts includes planning, acting and evaluating the strategy and they are interconnected to each other (David,F.R. 1999). David's model, use a comprehensive framework to plan the strategies; this helps strategists to define, evaluate and choose the strategy (Aarabi, M. and Agha Zadeh, H. andNezami Vand Chegini, H.1385).

Start phase	
Define the mission and mission statement of organization	
Input phase	
Internal factors evaluating matrix	External factors evaluating matrix
Comparison phase	
Internal and external matrix	SWOT matrix
Decision making phase	
Strategic quantitative planning matrix	

Drawing 1: comprehensive framework of strategy definition (Aarabi, M. and Agha Zadeh, H. andNezami

Vand Chegini, H.2006)

The component of David's model: - Mission Statement: is a statement that distinguishes the organization

from other organizations and clarifies the range of activities interacted with the product and market

(David,F.R. 1997).**Vision:** in the vision statement of the organization these question should be answered:

what we want to be? Indeed vision is exactly thing that makes sense to the movement from a static world

of mission and values to a dynamic world of strategy. It is a verbal image of the final goal of the

organization that could offer 5 or 10 or 15 years later (Niven R. Paul.2008)**Values:** should be considered

us a provider of a framework of principles in which decision and actions are made in all aspects of

defining, executing and evaluating the strategies (Ibid,1386). **Internal analysis**: every organization has

strengths and weaknesses in its domain of functional units those are not equal in the circle of units, and

the internal analysis must be done by gathering, classifying and evaluating these strengths and

65

weaknesses of the operations (David,F.R. 1997).

External analysis: the purpose is to gather a final list of the opportunities that could be avoided. Strategic Targets: are the goals that the organization should be achieved them by defined planning **Policies:** are tools in which to gain annual goals. It means guidance's, requirements and approaches that should be observed by the organization to achieve the goals. **Executive planning**: less than 10% of defined strategies execute successfully so the phase of executing strategies is so important. **Short-term goals**: or annual goals that organization use them to achieve long-term goals, they should be measurable quantity, read challenger and compatible with other goals and be prioritized. **Control andevaluation indicators**: 3 main activities should be done, analysis internal and external factors that are the basis of the current strategies, calculating and evaluating the operations and the corrective acts (Ibid, 1997). David's comprehensive pattern of strategic management is shown in drawing 2: feedback
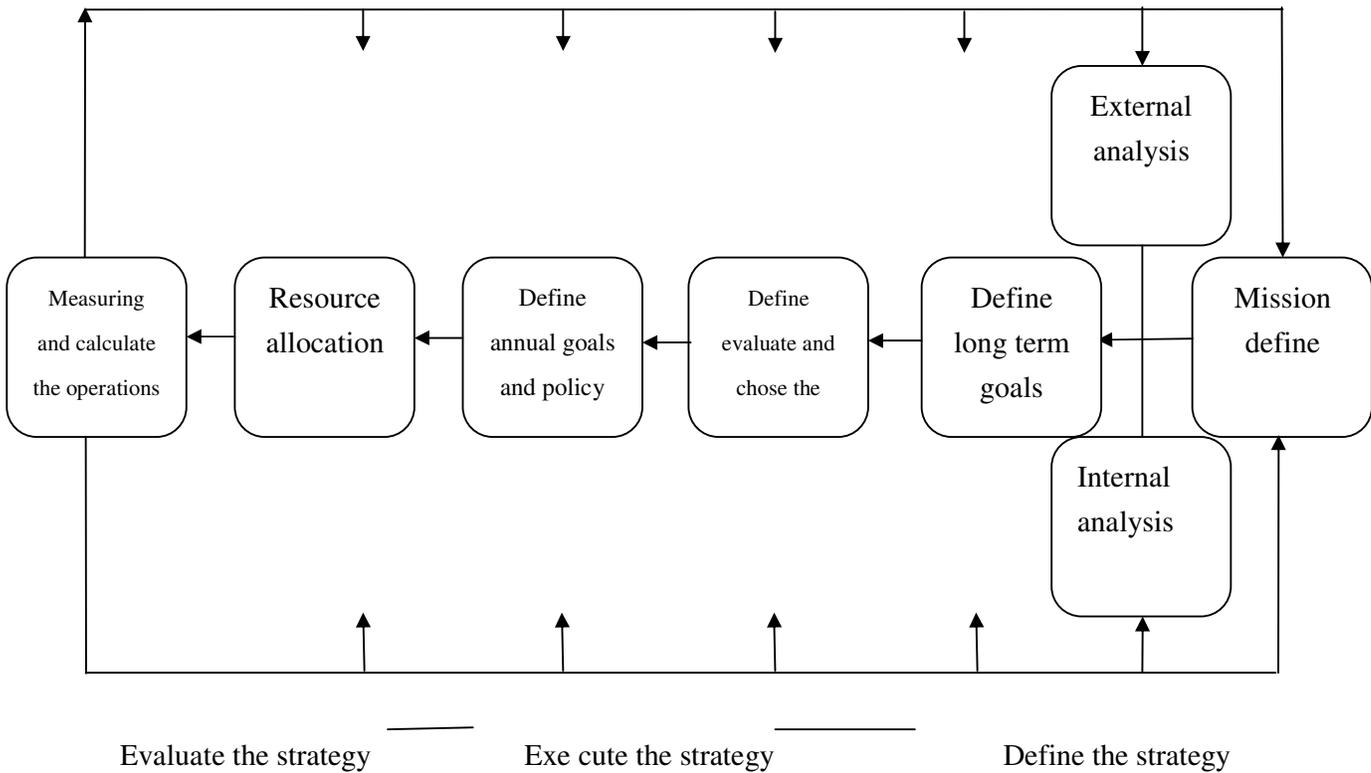
Drawing 2: David comprehensive patter of strategic management (David, 1998)

Create a strategy focused organization: results of a research on 275 managers have shown that the ability of executing strategy is more important than the quality of strategy (Kaplan R.S. & Norton D.P.1992). These managers mentioned executing of the strategy as the most difficult factor in evaluating the organization and the management. This result is perhaps surprising, because in the past two decades management theorists, and business consultants and issues have focused on how to develop the strategies (that will lead to better performance). Developing formulation a strategy never seems never to have been important. Steel other observers agree with the ideas of managers in this research that the ability to execute the strategy could be more important than the strategy itself. In the early 1980s, a research by manager consultants showed less than 10% of defined strategies had been successfully executed (Ibid,

1388). The balanced evaluation approach helped successful organizations to build a modern management system. A system that manages planned strategy. This modern system has three specified parts:

1- Strategy takes place in the center of organization planning.

2- Extra ordinary focus on strategy.

3- All employees are mobilized for the fundamentally different performance. The principles of a strategy- oriented organization:
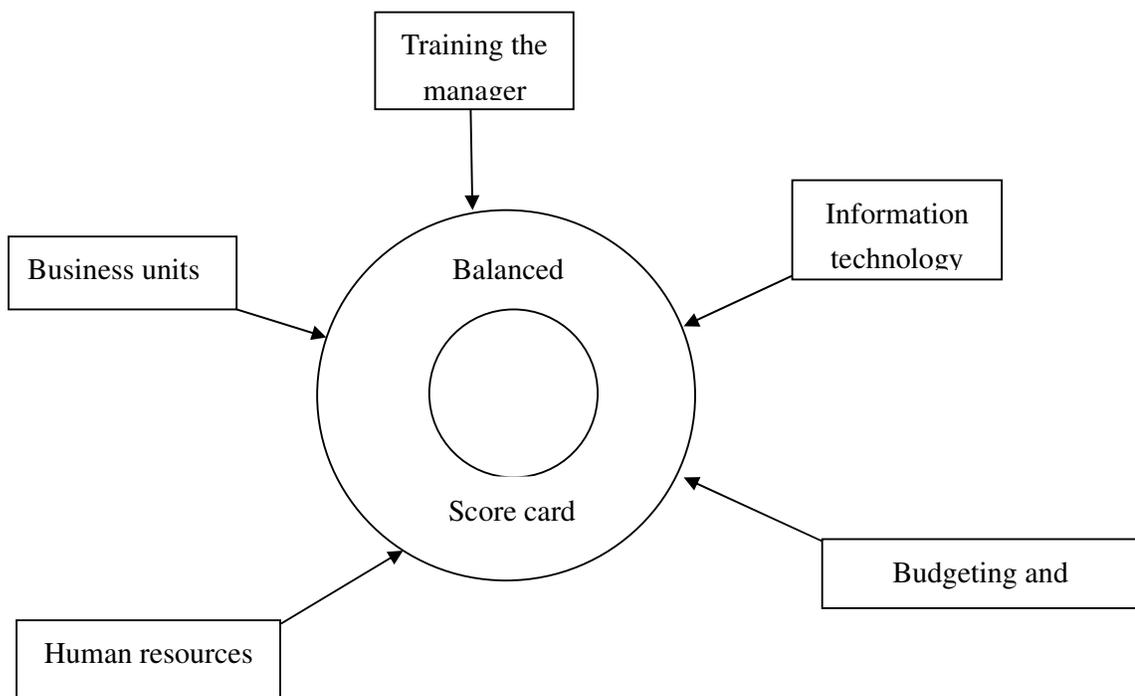
Drawing 3: Aligning and focusing resources to the strategy(Kaplan and Norton, 2009)

The same principles have been observed in practices that are called the principles of a strategy-oriented organization which are shown in Drawing 4:

Mobilize the organization for change
through management
- Mobilization (the organization)
- Governance process
- Strategic management system

Translate the strategy to operational
terms
- Strategy maps
- Evolution measures (balanced
  score card)

Balance

Score

Make strategy a continual process
- Link budget and strategies
- Analytics and information
  systems
- Strategic learning

Align the organization to the strategy
- Corporate role
- Business units synergies
- Support units synergies

Make strategy every one's every day job
- Strategic Awareness
- Personal Scorecards
- Balanced paychecks

Drawing 4: Principle of a strategy- Focused Organization (Kaplan and Norton, 2009)

Evaluation: evaluation means to measure operations by comparing the current situation with the desired or ideal state based on pre-determined criteria which posses certain characteristics. In general the scorecard system could be known as a process of measurement and scaling and comparison the amount of and access to ideal situation by standards and certain attitudes in certain domain and certain period of time in which to review, correct and improve (Rahimi, GH.2007). Any attempt to achieve success, should

be within framework and improving the organization operation should be based on a process called

"operation cycle". Any improving plan should be started by measuring and evaluating. Balanced score

card as an evaluating system: balanced score card is known as an performance evaluating tool and an

executing strategy tool also to define organization alignment, investment and information today it is

known as a general and comprehensive framework for organization changes. Scorecard's components are:

strategic maps, indicators, rate of measure, Casual relationship, and organization strategic goals. These

components are introduced to separate the goals among 4 point of view that are expressed in the

following (Bakhtiari,P.1982). Balanced scorecard is an approach to evaluate non financial measures. The

comprehensive balanced scorecard system is a management system that enables organizations to make

their vision and strategy clear and actual if the establishment of this system was complete and successful.

Then the strategic planning system can be executed (Ibid, 1387). Johnson and Kaplan also believes that

the organization is focusing and motioning on accounting information that is suitable for external

financial reports and using this information to performance measurement is in dispute. Further more

financial measurements do not offer a complete vision of the managers' performance (Namazi, M. and

Ramezani, Amir. 2002). Balanced scorecard provides a good composition of financial and non-financial

measurements (Bostaniyan, J.2005). This concept as an evaluating system of commercial performance

spread believing that "current evaluating performance approaches that emphasize first and foremost

financial accounting measures are obsolete". This inventor approach is able to consider software or

implicit factors that were immeasurable or cheap. "Balanced scorecard" term makes harmony between

short and long term goals, financial and non-financial, directorial and functional indexes and inner outer

dimensions (Hepworth ,paul.1998). Kaplan and Norton explain: balanced scorecard transforms organization mission and strategy to a group of comprehensive performance measurements and provides a framework for management and strategic assessment (Ibid, 1998). Balanced scorecard is a conceptual framework that transforms organization macro goals in to measureable indicators and provides a balanced distribution between critical financial areas, customers, internal processes, growth and learning (Alvani,M and Seyed Naqvi, M.A.2003) Considering its improvement in 3 generations, balanced scorecard's critical task is to connect measures of evaluation to each other through a series of casual relationships (Niven R. Paul.2008). First generation balanced scorecard has 4categories which have 4 aspects. The balanced term in balanced scorecards means: 1- balancing financial and non-financial indicators 2-balancing inward-looking and out-word looking measures. Balancing forward measurements that focus on future activities and backward measurements that focus on past activities. The 4 aspects of balanced scorecard are: a) financial measurements. b) Customer measurements. c) Performance measurements. D) Growth and learning measurements. The basic framework of balanced scorecard is shown in drawing 5.

Financial
perspective
Goals measures

Customer
perspective goals
measures

Internal business
perspective
goals measures

Learning and growth
perspective goals
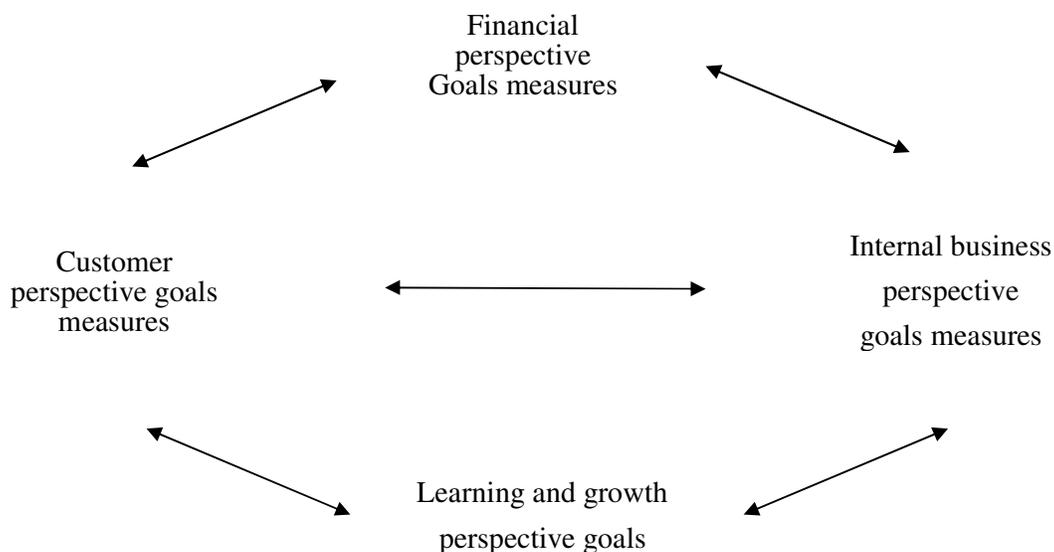
Drawing 5: balanced scorecard (basic framework-targets) (Kaplan and Norton, 1992)

Second generation balanced scorecard: balanced scorecard inventors in their second paper in 1993, considered balanced scorecard not only as a measurement system but also a management system and focused its role in vision mission and strategy of the organization (Rigby k.2001). Drawing 6 shows the advanced primary balanced scorecard:
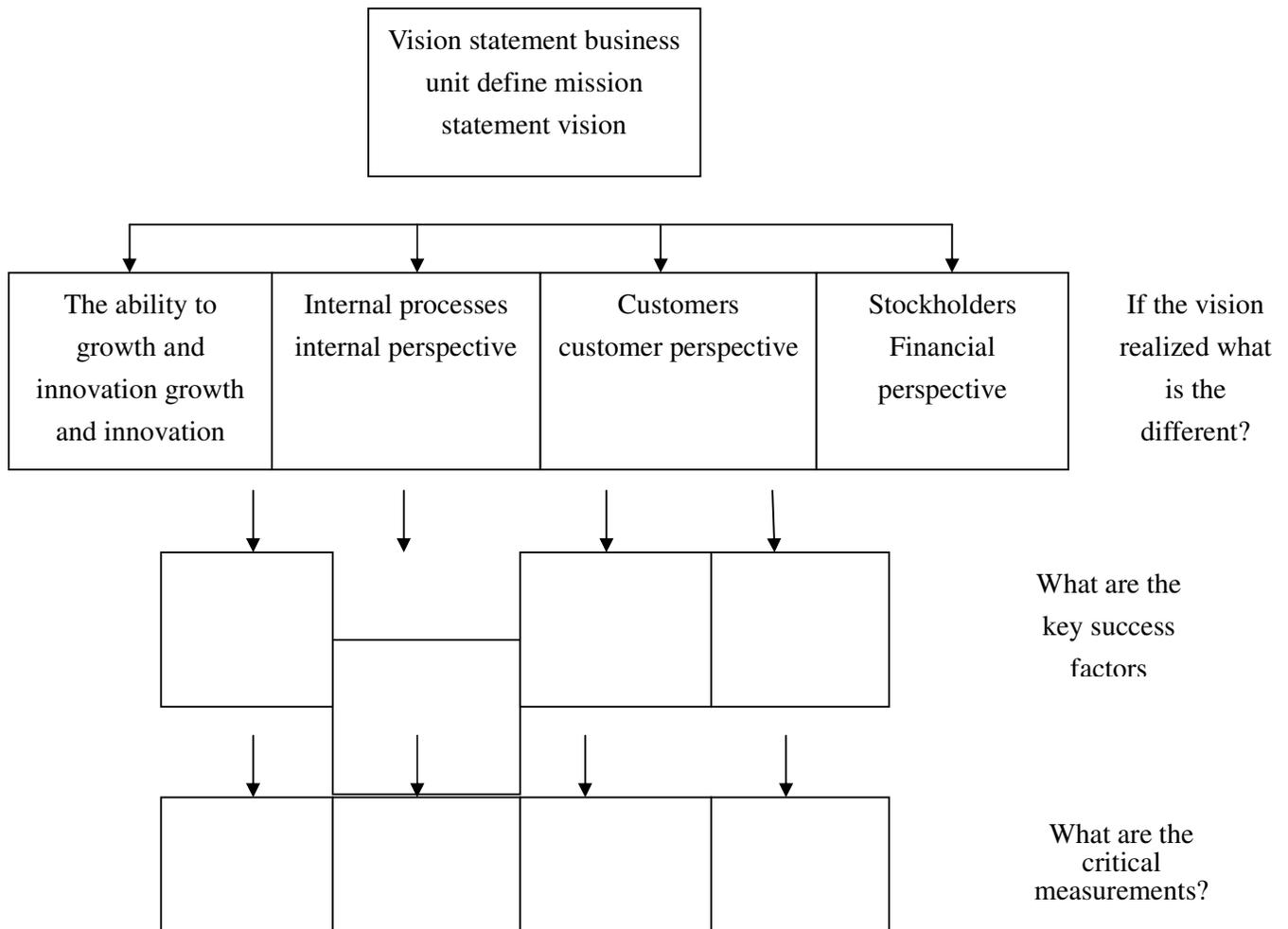
Drawing 6: balanced scorecard (the second generation- 1993)(Rigby k.2001).

Third generation balanced scorecard: in 1996 Kaplan and Norton gave a more developed style of

balanced scorecard as a strategic management system (Kaplan R.S. & Norton D.P.1997). They explained: classic management system are unable to connect long-term strategies and short-term tasks, but mangers who use balanced scorecard are not forced to focus on short term financial measures as unique performance measures, and balanced scorecard empowers them to start 4 new management processes that separately or in combination help to make connection between long-term strategies and short term tasks, this process is shown in Drawing 7. Strategy map: next development of balanced scorecard was the introduction of strategy map (Mortinsons& Davison,Tse.1997)Strategy map actually is the use of casual relationships in balanced scorecard. These maps are given to transfer a clear concept of strategy about how to communicate their functions with organization general goals and empower them to act collaboratively to gain desired objectives(Kaplan R.S. & Norton D.P.2001).

Financial

	Objectives	Measures	Targets	Initiatives
To succeed financially, how should we appear to our share holders?				

Customer perspective

Internal business process perspective

To achieve our vision, how should we appear to our customer ?	Objectives	Measures	Targets	Initiatives

Vision And strategy

To satisfy our shareholders and customer, what business processes must we excel at?	Objectives	Measures	Targets	Initiatives
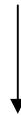
Learning and Growth
Perspective

	Objectives	Measures	Targets	Initiatives
To achieve our vision, how will we sustain our ability to change and improve?				

Drawing 7: Third Generation balanced scorecard-1996(Management Encyclopedia, 2001)

Integrating David model and balanced scorecard: the main difference between David's model and balanced scorecard is in the execution phase. In this phase all organization's units, processes and in general the all organization's coordinate with planning strategies and the necessary integration will be created in the organization that the other models lack this ability. Mahan airlines is a strategy-focused organization and in this organization strategic planning is the basis of long-term planning's and goals. The organization's planning utilize David's model. Most models have weakness in implantation, evaluation and controlling, in this organization using balanced scorecard chiefs decided to decrease or eliminate the weaknesses in implementation, evaluation and control.

Balanced scorecard implementation in Mahan Airlines

Creation of the first balanced scorecard could be considered as a systematic process which is about translating organization strategy and mission into targets and performance measurements transparently. This project needs an architect who makes a framework for the process and makes it easier. Also provides required information that balanced scorecard needs them (Kaplan and Norton, 1996). First of all balanced scorecard implementation in the organization needs 2 preliminary steps that are essential: 1) introduce balanced scorecard in the organization 2) define implementation executers. After doing these 2 steps and considering Mahan's special features, performance measurement designing and implementing was executed by balanced scorecard. The basis of performance measurement by balanced scorecard is

improving the effectiveness of the plans and organization performances in 4 perspectives (financial- customer- internal businesses- growth and learning). Researches and studies has shown in all of these models there is a strong planning but in many of these models there are weaknesses in implementation, monitoring and evaluation. We know balanced scorecard as a strategy phenomenon of this century and is the best instrument for implementation, evaluation and monitoring. The purpose of this study originally is to create an excellent planning in addition to a good implementation, higher level of evaluation and control in the organizations that appears its effectiveness and efficiency of performance improvement. in this article we will see if integrating David's model and balanced scorecard results in performance improvement or decrease or eliminate weaknesses of strategic planning of this model. The importance of this issue is to improving the performance and as a case study in Mahan Airline. According to researches and studies, David's model among strategic models is one of the most popular that its weaknesses are in implementation, monitoring and evaluation. If we could integrate David's model with balanced scorecard in order to compensate for David's weaknesses in implementation, evaluation and monitoring of strategic planning. Therefore the main purpose of this study is David's model performance improvement and covering its weaknesses through integrating it with balanced scorecard and according to considered population it could result in more appropriate planning in fleet aviation of the country and helps managers to decision and performance evaluation.

Methodology

In this study at first there was an extensive study about the concept of David's model and strategic

planning and balanced scorecard. And in the next step the study was about deliberation these concepts and comparing them. Balanced scorecard and David's model was explored and the weaknesses of David's model was discovered and it was checked if balanced scorecard implementation eliminate these weaknesses. These studies and implementation of integrating David's model and balanced scorecard gas done as a case study in Mahan Airlines. According to purpose of the study and method of data collection, this is an applied and descriptive-survey research. The method of data collection basis is on descriptive research and on the other hand because data were gathered of the feedbacks from pundits (by questionnaire) the study has a survey aspect. Mahan Airline managers in Tehran and in center office placed in Tehran are the statistic sample and population. In this study raw data were given to SPSS software version 18, and be analyzed. First, by descriptive statistics we described and summarized demographic characteristics of the sample population including age, gender, rate of education and work experience and then we used inferential statistic. T-test is used to investigate the effects of gender variable and ANOVA is used to investigate the effect of rate of education, work experience and the age of repliers. Field and library researches were used to gathering data from questionnaires. Content validity was designed by using the comments of advisor and consultant professors and superior managers were questioned by balanced scorecard with 4 perspectives. The stability of this research was calculated by Cronbach's Alpha that usually more than 0.7 is desirable.

	The number of questions	Cronbach's Alpha
Superior managers	68	Before BSC=0.797

	68	After BSC=0.972

Structure Of data analysis

Structure of data analysis according to the questionnaires is: given questionnaire to superior managers contains 68 questions that evaluate organization performance before and after balanced scorecard. In this questionnaire 4 perspectives of BSC are questioned as follows: 14 questions of financial perspective, 16 questions of customer perspective, 23 questions internal business perspective and 15 questions of growth and learning perspective. Through analyzing the data of this questionnaire, this will be defined by BSC if weaknesses of strategic planning are decreased and effective improvement is happen about this planning. To this end, after descriptive analysis, inferential analysis has been used to consider effectiveness of the model before and after implementation and analysis of the issue has been mentioned descriptively and inferentially. Finally in further tests in order to analyze the effect of each demographic variable on considered status, T-Test, Mean square Test, analyze of variance and variable ratio have been used.

Conclusions

Effectiveness analysis of BSC model: before and after implementation, superior managers were questioned and Men square Test has been used in both populations before and after implementation of BSC.

H0: implementation of BSC in the organization is not effective

H1: implementation of BSC in the organization is effective and sig=0

As you can see, sig's value is less than 0.5, thus H0 hypothesis based on the absence of effectiveness of

BSC model in the organization is rejected and we conclude that implementation of this model in the organization is effective. We compare variable ratio before and after BSC implementation in the organization in order to analyze the percentage of improvement and decrease of weaknesses of David's model. Implementation of BSC showed improvement such that %98.3 of repliers believe an improvement of %60=1,2 multiplication in financial perspective, %93.3 of repliers believe an improvement of %65=1,3 multiplication in customer perspective, %100 of repliers believe an improvement of %65=1,3 multiplication in internal businesses perspective, %94.9 of repliers believe an improvement of %65=1,3 multiplication in growth and learning perspective. The improvement range is 1 to 1.5 multiplications. Improvement of 1.2 multiplications in financial perspective, Improvement of 1.3 multiplications in customer perspective, Improvement of 1.3 multiplications in internal businesses perspective and Improvement of 1.3 multiplications in growth and learning perspective is gained. It can be said %60 of improvement and decrease of weaknesses in customer perspective and %65 of improvement in the other perspectives are gained.

Do the weaknesses of David's model decrease or eliminate by using BSC? According to the results, it can be noted that implementation of BSC decrease the weaknesses of David's model significantly.

Inferential demographic data analysis according to the results of independent T-Test

The first sig (significant number) is related to variance test, where sig is greater than 0.05, means that two different genders have similar opinions and H_0 is accepted and where sig is less than 0.05, means that H_0 is rejected and H_1 is accepted and two different genders have different opinions. The second sig is for paired comparisons in two different genders, and the result shows that the average in two populations is

not equal, means where sig is greater than 0.05, H_0 is accepted and where sig is less than 0.05, H_0 is rejected and H_1 is accepted. In order to establish equality in average in variable of age, educational rate and work experience, variance analysis was used and results in: where sig is greater than 0.05, means that different levels have similar opinions and H_0 is accepted and where sig is less than 0.05, H_0 is rejected and H_1 is accepted and means at least two different levels have different opinions.

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A Comparative Study of NAV (Net Asset Value) Returns of

Open-endedandClose-ended Mutual Funds in Pakistan

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Abstract

Research study is a comparative study of the returns of the two mutual funds which are close ended and open ended

mutual fund, quarterly data of Net Asset Values NAV of both the funds from 2008-2012 (inclusive) was taken and

the return on those NAVs was calculated through natural log (LN) function. First the normality test of

Kolmogorov-Smirnov and Shapiro-Wilk indicates that the data is not normally distributed as P<0.05 in both the test;

also the descriptive test verified the results of normality test as the Kurtosis and Skewness values were greater than

the normal values (Kurtosis 28.11 > 3) and (Skewness 2.81 > 0), both the tests indicates that data is not normally

distributed and which we cannot apply parametric test of mean equality which is T-TEST but due to abnormal

nature of the data non-parametric test of mean equality which is MANN-WHITNEY U test was followed. Results

of the test states that NAV return of Open end mutual fund (Median = 0.0078, U = 98.78) did not differ

significantly from NAV return of Close end funds (Median = 0.0048, U = 98.21), z = −0.071. We fail to reject the

null hypothesis that there is no difference between the NAV returns of Open end and Close end fund as p >.05

Key Words: Close end mutual fund, Net Asset Value, Open ended mutual fund.

1. INTRODUCTION

1.1Background of the study

Mutual fund is a type of financial investment which got popularity at developed financial markets but in recent

years it is getting higher attention by the investors in the developing economies such as Pakistan. A mutual fund can

be defined as "combined pool of money by different investors for the investment purpose, who invests in different

asset classes to seek higher return at minimum risk level". In simple words the mutual fund is basically an

investment in which different investors pool their money in and get the return on those funds after certain time

period and also at the time of the maturity of that investment. These funds are managed by financial expert and the

portfolio managers who are entitled to take investment decisions and against their services they charge certain

amount of money as management fee. Mutual fund is the desired investment by the investors because it includes

variety of financial asset in it which reduces the investment risk and helps investors to reap optimal returns through

diversification, other benefits of the mutual funds are that they provide liquidity, affordability, transparency and economies of scale to the investors.

Mutual Fund has distinct industry in financial sectors which is known as asset management industry; during the last few decades this industry has it has experienced exponential growth mainly due to the higher investors' trust on investing in mutual which provides striking returns with lower level of risk. The investment of the fund managers are relentlessly seeking for different investment opportunities in financial markets which is their main objective of managing portfolio, also they like to minimize risk level while maintaining higher return, which is greatly attained by investing in mutual funds.

Mutual Fund investment was first originated from North America in 1924, but it became most popular in early 1980s across the globe. According toWilford(2008) currently the total worth of mutual funds investment is roughly around $20trillion and approximately half of this amount is contributed by the United States mutual funds industry alone.

1.1.1 Close-ended and open-ended Funds

There are two types of mutual funds with respect to the investment pattern these are; Open-ended and close-ended Mutual Fund. Despite the facts that these funds come under the heading of mutual fund but both the funds are completely different from each other in terms of trading.

Close-ended mutual funds are initially offered to the public through primary offering and subsequently funds are traded in the secondary market and ownership transfers among different investors. The former can only increases a set amount of investment only through an initial public offer by issuing certain number of shares considering the current demand for the investment, units of share of funds are later purchased very first time by investors in the

84

closed-end, fund is traded thereafter same as any stock after IPO. Units of close ended mutual fund are called

"shares" and the value of the fund is known as "net asset value- NAV", individuals as well as institutions can buy

or sell shares of close-end funds at a certain price level by any time from secondary market. Like other financial

assets and the market securities the value of close-ended Fund depends on the demand and supply forces in market.

Daily NAV value of close-end fund does change according to free market dynamics i.e. demand and supply of

particular fund.

On the other hand open-ended funds are totally different from the close end funds and they are only issued by asset

management companies- AUMCs, they sell units of open-end funds to different investors, the units of open end

fund does not trade on secondary market and the funds' NAV value adjust according to the share prices of stocks &

financial assets selected in portfolio. Open end funds are more liquid than that of close end funds this is why close

end funds are traded on discounted value unlike open end fund which trades exactly on NAV value.   Open end

fund requires subscription and do allow redemption of units on recurrent basis while the investors have legitimate

option to change their investment proportion whenever they want to do so before the maturity of any particular

fund. Open end fund as name suggests does not have any fixed or closed pool for investment, the fund manager in

an open end fund can increase the units of fund whenever he or she requires and it they also allow investors to

leave or join the fund whenever the investor wants.

The trading price of the open end fund is its NAV value and investors can purchase the units of funds at the

particular NAV value of that day. Net asset Value NAV is considered as a performance indicator of any fund that is

why trading of every fund is done according to NAV value of the fund.

$$\text{Net Asset Value (NAV)} = \frac{(\text{Total Assets} - \text{Total Liabilities})}{(\text{No. shares or units outstandings})}$$

Net asset value-NAV is computed at the end of each trading day, as mentioned earlier true price of any fund is NAV value not the market price, which is determined by supply and demand equilibrium.

1.1.2 Mutual Funds in Pakistan

Mutual Funds in Pakistan were first introduced in 1962, at the time when an open-ended fund was issued by NIT-National Investment Trust and was introduced very first time in the market, at that time this was the only open-ended mutual fund offered by any public enterprise. Following that first open end mutual fund issuance fund by Investment Corporation of Pakistan-ICP was launched in 1966; fund was a close-ended mutual fund.

Talking about the mutual fund industry in Pakistan, it worth billions rupee industry it is one of the emerging investments in Pakistan's financial sector during the FY 2012 mutual Funds industry has grown by CAGR of 51% to the worth of Rs.379bn. growth in mutual fund industry is mainly because of increased awareness of mutual fund investment among the common people as they've realized expertise and professionals and investment analyst can better manage their investment rather they invest alone in stock market, secondly savings trend among the people has increased in recent years and people do not want to save their money in banks but they rather want to invest in secured investment which provides higher return and same level of risk as that of bank, so people see mutual funds as a best alternative to bank savings also it provides variety of mutual funds to the investors for the investment purpose.

Primary purpose of making mutual fund investment is to render the services of professionals and investment analysts who can make investment decision which will be in best interest of the investors and would increase their wealth, management or professionals charge certain percentage of investment as fee from the investors for

managing the portfolio. The investors also want to have such investment portfolio which is more liquid so that they can cash it whenever they want, secondly they want to have diversified portfolio which mitigates investment risks and also more convenient to understand as compare dynamics other of financial investment.

By diversification investors can choose portfolios which have different returns and risk level, in mutual funds its only possible that investors can have diversified portfolio with little amount of money;   which is somewhat difficult for the investors to make any diversified portfolio by just investing alone in stocks or in other financial assets.

Mutual fund also provides investors with variety of asset classes under different mutual funds i.e. equity, money market, balanced and government securities which impossible for a single investor to invest in these different classes of investment simultaneously; it is only through making investment in mutual funds only.

1.2 Study Objectives

The primary purpose of the study is to find out the difference between the NAV returns of Open-ended and Close-ended mutual funds, as it's a major concern for the investors in recent days that whether open-ended fund is better than close-ended or vise-versa, so it is important for the investors and portfolio managers to assess and evaluate the performance in terms of return of each type of mutual fund, so we will try to statistical check that is there any difference between two categories of funds.

Research Statement

There is debate on the performance of both the open-ended and close-ended mutual fund, in this research study we would try to gauge the performance of both the funds separately and would classify the best fund on the basis of analysis and evaluating indicators.

Despite the growing popularity of the mutual funds as an investment these days, still the investors are much

skeptical about investing in any mutual funds due to the technicalities been there in those investment avenues.

Researches are done only on the basis of NAV returns been generated by the fund but these had ignored the risk

level on those funds, so under these one sided studies with inadequate information investors had made losses

despite good market condition.

1.3 Hypothesis

Null hypothesis for the comparative study of the means of open end and close end mutual funds would be;

HO: µOPEN = µCLOSE

Ho: Mean of open end fund is equals to the mean of close end fun

In the comparative studies we test null hypothesis by equating the means of two different variables to each other,

any value deviating will be much easier to identify and also our purpose is to find the difference between the means

of open end and close end mutual funds.

2 LITERATURE REVIEW

To evaluating the performance of the mutual funds, there are number of empirical research studies which tried to

investigate the mutual funds more concretely, a study by (Dahlquist, Engstrom, & Soderlind, 2000) evaluate the

basic relationship of open-ended mutual funds' performance with its primary attributes in different time periods for

the developed economies.Research study by Korkeamakiand Smythe(2004) was more toward finding out the

performance of mutual funds in different segments related to Finland. A study by Robertand Sahu (1988) was

directed to gauge the quantitative impact of size of the fund on the total return of that fund; they evaluated so by

determining the relationship of fund's net asset with its return. Preceding studies have suggested that smaller the

size of any fund, the higher is its operating efficiency because the managers can easily manage the small sized funds in a better way; consequently they earn higher return than those of large size funds. Robert and Sahu(1988)intheir study concluded that in US the smaller size mutual funds have managed to provide superior returns as comparison to large sized funds. Results explicitly concluded that funds size had somewhat relative impact on the return and the smaller funds had positive risk adjusted returns as measured at 90% significance level by Jensen Abnormal Performance Index.

Research studies byGorman(1991) and Dahlquist, Engstrom, and Soderlind(2000) were supporting the notion that size does have impact on the returns. Gorman(1991) Found out in his study that small mutual funds, as measured by net assets, performed slightly better than large mutual funds. These results indicate that mutual funds quickly dissipate impact of economies of scale as size of the funds increases and so do experience the decreasing returns (Stan & Vaughan, 2001;Chen, Hong, Huang, & Kubik, 2004). Accepting the results of above researches, Dahlquist, Engstrom, and Soderlind (2000) also attempted to evaluate the important relationship between funds' return performance and their size in the Swedish market and it was concluded in the study that better performance can be attained by the equity funds which are smaller in size.

A study by Daniel, Grinblatt, Titman, and Wermers (1997) has directed toward evaluating the overall performance of mutual funds in comparison to that of benchmark which was market in this case, results of the study determined that when a particular strategy recommended on the basis of fundamental analysis by the managers then they should anticipate that strategy will simply outperform the market. Fundamental nature of strategies are easier for the managers to execute and look after and they act like a passive strategy of managing the fund which have less cost than that of active strategy of managing funds, so according to the study managers can only outperform the

market through fundamental strategy or passive strategy not through active strategy.Budiono and Martens (2010)

conducted a research study on investigating different investment strategies and tactics through which investors and

analysts make investment decision while investing in mutual funds, they in their study that used managerial ability

ratio and funds expense ratio as variables together with the predictable investment determinants, like finding the

excess return than that of the benchmark by applying tools that help to determine the risk adjusted returns of the

fund which can be much more helpful to determine the real performance of the mutual funds for the long term

period.

Study regarding gauging the performance based on selection of the assets in an optimal portfolio was carried out by

Shah and Hijazi (2005) regarding the mutual fund industry of Pakistan, the result was concluded that most of those

funds that were underperforming the market usually were facing diversification problem regarding the selection of

the assets. They concluded that the performance improve through managerial decision making and asset selection

basis on those factors funds had performed better but some funds were lacking in performance due to lack of

diversification

Sipra, (2006) in its research report which was carried out to evaluate the performance of mutual fund in Pakistan

for the period ranging from 1995 to 2004 and it was concluded in the study that the larger funds were unable to

outperform the market in a better way, but only small sized funds were on the better side and they tend to beat the

overall performance of the market, but performance of the funds was not so consistent and results had implicitly

accept the semi-efficient market.

Study for evaluating the performance of the close end mutual funds by Khalid , Abbas, and Shah   (2010)

applying two new ratios in their study which have not been used in earlier studies, results of the study concluded

that the close end mutual were unable to perform well due to sudden fluctuations and volatility in the capital market which is not in control of the investment managers. It was suggested in the study that managers should need to be more efficient to earn good returns and pursue such strategies which can ensure better returns.

Hartzell, Mühlhofer, and Titman(2010) Who carried out a research to compared styles of managing the investment under mutual funds, they concluded that those managers who aggressively managing the portfolio and were making required adjustment timely performed better than those who were only managing the portfolio through passive style of holding investment.

Sharpe(1966) In his research about performance evaluation of the mutual funds find out that the funds can the evaluated through averaging the return by the level of risk incurred, so this would gave the risk-adjusted performance evaluation of the mutual funds. Another study by Jensen(1667) concluded that the performance can evaluated on the basis of total return and volatility in the return through Jensen alpha measure.

There are also few studies which has focused the performance of mutual funds from the perspective of Pakistan. Study by Nafees, Shah, and Khan, (2011) revealed that the mutual funds industry had performed below the market return. Also the risk adjusted return had shown negative result depicting higher risk compare to the return. Another study by Afza and Rauf, (2009) used quarterly data from 1999 to 2006 of both open and close-ended returns in order to identify the key performance variables of mutual fund performance in terms of risk adjusted return, according to the study result classified lagged return and liquidity had significant impact on the performance of fund as well as maturity, turnover and additional expense for managing the fund are positively related with the overall performance of a particular fund. Moreover, by applying regression analysis, they didnot find any significant difference between the performance of the funds with load charges and those without load

charges. They also argued that the size of assets would not be valid measure to clearly distinguish between the superior and inferior fund.

Overall, there were many research studies that evaluated the performance of mutual funds using different techniques of assessment but there are few studies which used risk-adjusted technique for close-end and open-end mutual funds from the perspective of Pakistan.

3 RESEARCH METHODOLOGY

3.1 Research Design & Sample

Research is a "comparative study" of the performance evaluation of two independent variables which are open end and close end mutual funds.

The sample for the research is only the open ended and close-ended mutual funds operating in Pakistan, because the main focus of the study is to evaluate the performance of close end and open end mutual funds of Pakistan independently. Sample's secondary data of NAV value is obtained on convenience based from internet sources especially from official site of Mutual Funds Association of Pakistan MUFAP (www.mufap.com.pk).

3.2 Data and Variables

Variables for research model are; Net Asset Values- NAVs, NAV return is computed through natural log or geometric mean pattern is followed rather than arithmetic mean pattern.

A total of five close-end and five open-end funds from the industry of Pakistan have been selected for the purpose of the study. Given below is the list of these selected funds;

Serial No.	Fund's Name	Type
	Close end Fund	
1	Golden Arrow Selected Stock Fund	Equity

2	PICIC Growth Fund	Equity
3	PICIC Investment Fund	Equity
4	NAMCO Balanced Fund	Balanced
5	Pak Oman Advantage Fund	Income
	Open end Fund	
6	MCB Dynamic Stock Fund	Equity
7	IGI Aggressive Income Fund	Aggressive Fixed Income
8	PICIC Energy Fund	Equity
9	ABL Stock Fund	Equity
10	Faysal Balanced Growth Fund	Balanced

Table 0-1 Mutual Funds

Moreover, all those funds selected are from different classes of investments i.e. equity, income funds, and balanced fund. The objective is to study the performance of different classes of investments with different portfolios which may help us to understand the difference in the return of those funds in detailed way. Raw data in panel data which was converted into a time series data which was used for the analysis which has time scale of 5 years from 2008 to 2012 inclusive, data frequency is quarterly.

3.3 Research Model

The type of the research is "comparative study" as it is more toward comparing the performance of two broad categories of funds.

Before carrying out for comparing two means of the returns, it is important to run the normality test of collected data; normality test is important in order to check whether data is normal or not and based on those results we will ran parametric in case of normal data or otherwise non-parametric test if the data is not normal.

If the data is normally distributed then we will follow the parametric test called Independent T-Test which compares means of the two variables, in case if the data is not normally distributed then in that case we will follow non-parametric test of comparing two independent means called Mann-Whitney U test.

4 RESULTS and DISCUSSION

As mentioned earlier, before conducting test of comparing mean returns we ran normality test in SPSS in order to check whether variable data is normally distributed or not, and according to normality we will choose parametric or non-parametric test of equality of means.

4.1 Normality Test

Under normality test we did descriptive analysis which includes center tendency i.e. (mean median and mode), means dispersion (i.e. variance, and standard deviation etc.) and distribution test (Kurtosis and skewness), along with descriptive test we displayed histogram which indicates the concentration and distribution of data.

Descriptive Statistics

N	196
Mean	0.0003
Std. Err. of Mean	0.0193
Median	0.0056
Std. Deviation	0.2698
Variance	0.073
Skewness	2.815
Std. Err of Skewness	0.174
Kurtosis	28.111
Std. Err. of Kurtosis	0.346

Table 0-1 Descriptive test Results

Descriptive test shows that the group mean is 0.0003 and kurtosis is 28.11 which is greater than the

benchmark which actually state that data is normally distributed if kurtosis value is exactly 3, so we can deduce

from the kurtosis value that data is not normally distributed. Looking at the value of skewness which is 2.81 and

this value is also greater than the threshold value of 0 for the normality of test, so skewness also indicates the same

as that of kurtosis that data is normally distributed.

After descriptive test there is another test that we conducted was the Kolmogorov- Smirnov and Shapiro-

Wilk test of normality.

Null Hypothesis: Data is normally distributed

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Fund	Statistic	Df	Sig.	Statistic	Df	Sig.
Return	Open end	.200	100	.000	.653	100	.000
	Close end	.163	95	.000	.805	95	.000

Table 0-2 Normality Test Result

Normality test indicates two important tests called Kolmogorov-Smirnov and Shapiro-Wilk; both the tests

are insignificant as the P-value is below threshold of 0.05 (P-value < 0.05), which tells that the null hypothesis that

data is normally distribution stands rejected here for both the open end and close end NAV returns.

4.2 Mann Whitney U Test

After finding out that the data is not normal then we applied non-parametric test for comparing means of

two independent variables i.e. close end and open end, Mann Whitney U test is the test which basically compare the

two independent means in non-parametric test.

The rationale behind the Mann-Whitney U test is to organize the data according to ranks for each condition,

after putting data into ranks it calculates difference between aggregate values of two ranks. If there is an organized

difference between two variables, then mostly the high ranked will belong to one condition or category and the

lowest ranks will be grouped into other one. As a result, the rank totals will be quite different.

Putting this in short the Mann-Whitney U test is used in SPSS to compare the differences between two

independent groups i.e. open end and close end when the dependent variable i.e. NAV return is either ordinal or

continuous, but not normally distributed.

Results of the Mann Whitney U test are as under;

Ranks

	Fund	N	Mean Rank	Sum of Ranks	Median
Return	Open end	100	98.78	9878.00	.0074
	Close end	96	98.21	9428.00	.0048
	Total	196			

Table 0-3 Mann-Whitney U Test

Mean rank of Open end fund is 98.78 which is greater than the mean rank of the close end fund which has

mean rank of 98.21, there's a slight difference in means of two funds, while the sum of the return of open end is

also greater than that of close end fund i.e. 9878 open end, 9428 of close end.Significance of Mann Whitney U test

is given in the following table;

Test Statistics

	Return
Mann-Whitney U	4772.000

Wilcoxon W	9428.000
Z	-.071
Asymp. Sig. (2-tailed)	.944
Exact Sig. (2-tailed)	.944
Exact Sig. (1-tailed)	.472
Point Probability	.001

Table 0-4 Non-parametric Significance Test

Looking at the statistics exact significance of 2-tailed and exact significance of 1- tailed the P-value is

0.944 and 0.472 respectively, both of these are greater than p-value of 0.05 (P> 0.05) which indicates that the test is

significant and there is insignificant difference between the means of open end and close end funds return.

Result;

NAV return of Open end mutual fund (Median = 0.0078, U = 98.78) did not differ significantly from NAV

return of Close end funds (Median = 0.0048, U = 98.21), z = −0.071.

We fail to reject the study null hypothesis that there is no difference between the NAV returns of Open end and

Close end fund as p >.05

5 CONCLUSION

This research paper is about comparing the returns of two broad and different mutual fund categories which

are close end and open end funds. Research started with describing the basic explanations of mutual funds and its

types along with its historical background and especially inception of mutual funds industry in Pakistan and current

situation in this industry with the Pakistan.

In Pakistan mutual funds industry started in 1962 when there was an only issue of mutual funds by NIT

National Investment Trust in the market later on in 1965 there were many funds introduced in the market and this

trend goes on for the decade and currently the mutual funds industry has grown tremendously and has become multi-billion rupee industry in the country's financial sector with strong hold in the financial markets.

The research study is a comparative study in which NAV return of open end and close end fund was compared using mean equality test, before conducting mean equality test it is important to run the normality test which shows that the dependent variable NAV return is not normally distributed as P-value is lower than 0.05 ($P<0.05$) which rejects the normality test null hypothesis that the data is normally distributed, rejection of null hypothesis directs for the non-parametric test of mean equality which is Mann-Whitney U test for comparing two independent variables.

Results of Mann-Whitney U test show that there is insignificant difference between the means of two funds as the mean rank value of both the funds was closely related also the median was also very close to each other. NAV return of Open end mutual fund (Median = 0.0078, U = 98.78) did not differ significantly from NAV return of Close end funds (Median = 0.0048, U = 98.21), $z = -0.071$. We fail to reject the null hypothesis that there is no difference between the NAV returns of Open end and Close end fund as $p > .05$

It proves from the study that the NAV return of open end and close end fund are not different from each other. This might be due to the selection of asset in the funds of each type which might resembles with each other and both the types are running parallel to each other.

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Information Management in Defense of White-Collar Criminals

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Abstract

Defense lawyers in white-collar crime cases tend to take charge over information management at an early stage.Information control implies that documents are kept hidden, and that clients and witnesses do not talk to investigators and other persons in public positions. It may also imply that individuals are protected from the press, so that only the lawyer makes statements about the case. Information control strategy is applied ahead of substance defense strategy whenever a white-collar crime case first is detected by the media, which then cause an initial police investigations.Out of 277 convicted white-collar criminals in a national sample, 238 convicts were defended by a male lawyer and 39 convicts defended by a female lawyer. Among 277 white-collar convicts, there were 253 men and 24 women. There are a total of 172 lawyers in the sample, which implies that each lawyer defended 1.6 criminals on average. The lawyer with most clients defended 20 convicts in the sample.

Keywords: Information management, information control, defense lawyer; white-collar crime; jail sentence.

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Information Management in Defense of White-Collar Criminals

Introduction

Defense lawyers in white-collar crime cases tend to take charge over information management at an early stage (Kopon and Sungaila, 2012). Instead of being at the receiving end of documents from the police and prosecution, the attorney is in a position where the flow of information can be monitored. Of particular interest to the attorney is crucial information that can harm the client's case (Mann, 1985). The flow of harmful pieces of facts, insights and knowledge of causes and effects, that might become legal evidence in the police, is restricted and stopped by the lawyer. Know-what, know-how and know-why that is damaging for the client, is controlled by the lawyer (Dibbern et al., 2008).

White-collar criminals are privileged individuals who commit financial crime in an occupational setting (Benson and Simpson, 2009; Brightman, 2009; Sutherland, 1949). Defense of white-collar criminals is of special interest in information management research, since lawyers tend to apply an active information control strategy as part of their overall defense strategy (Oh, 2004). White-collar crime defense strategies include substance defense strategy, symbolic defense strategy, in addition to information control strategy.

Based on a sample of 277 convicted white-collar criminals in Norway, this research identified 172 lawyers in the sample, which implies that each lawyer defended 1.6 criminals on average. This article presents both conceptual ideas about information control strategy as well as characteristics of white-collar crime attorneys.

Characteristics of White-Collar Criminals

In Sutherland's (1949) definition of white-collar crime, a white-collar criminal is a person of respectability and high social status who commits crime in the course of his occupation. This excludes many crimes of the upper class, such as most of their cases of murder, adultery, and intoxication, since these are not customarily a part of their procedures (Benson and Simpson, 2009). It also excludes lower class criminals committing financial crime, as pointed out by Brightman (2009).

What Sutherland meant by respectable and high social status individuals are not quite clear, but in today's business world we can assume he meant to refer to business managers and executives. They are for the most part individuals with power and influence that is associated with respectability and high social status. Part of the standard view of white-collar offenders is that they are mainstream, law-abiding individuals. They are assumed to be irregular offenders, not people who engage in crime on a regular basis (Benson and Simpson, 2009: 39):

> Unlike the run-of-the-mill common street criminal who usually has had repeated contacts with the criminal justice system, white-collar offenders are thought not to have prior criminal records.

When white-collar criminals appear before their sentencing judges, they can correctly claim to be first-time offenders. They are wealthy, highly educated, and socially connected. They are elite individuals, according to the description and attitudes of white-collar criminals as suggested by Sutherland.

Therefore, very few white-collar criminals are put on trial, and even fewer upper class criminals are sentenced to imprisonment. This is in contrast to most financial crime sentences, where financial

criminals appear in the justice system without being wealthy, highly educated, or socially connected.

White-collar criminals are not entrenched in criminal lifestyles as common street criminals. They belong

to the elite in society, and they are typically individuals employed by and in legitimate organizations.

What Podgor (2007) found to be the most interesting aspect of Sutherland's work is that a scholar needed

to proclaim that crimes of the "upper socioeconomic class" were in fact crimes that should be prosecuted.

It is apparent that prior to the coining of the term "white collar crime," wealth and power allowed some

persons to escape criminal liability.

Characteristics of White-Collar Lawyers

Lawyers are competent in general legal principles and procedures and in the substantive and procedural

aspects of the law (Dibbern et al., 2008). Lawyers, as knowledge workers, apply a variety of knowledge

categories such as declarative and procedural knowledge. Most lawyers spend several hours a day

answering queries, generally the types of queries you cannot really capture or look up in a know-how

database. As part of the execution of knowledge processes, knowledge lawyers can decide for themselves

and is free to decide whether and what knowledge they need, what knowledge they want to evaluate,

develop, implement, and communicate. When several lawyers work on a case, there is often an

independence of professionals working together, which might be characterized as collective individualism

or individualistic collectivism that makes the sharing of knowledge both dynamic and random. Lawyers,

as knowledge professionals with a   great deal of autonomy, are free to choose an individual approach to

knowledge processes, including the need,   storage,   access,   sharing,   application,   creation, and e

evaluation of knowledge. Autonomy of the performance is an important structural feature that can promote knowledge processes, since such autonomy encourages individuals to develop new knowledge. At the same time, several people (brains) looking at the same problem can come up with different, novel approaches to solving the problem.

A law firm is a business entity formed by one or more lawyers to engage in the practice of law. Most law firms use a partnership form of organization. In such a framework, lawyers who are highly effective in using and applying knowledge for fee earning are eventually rewarded with partner status, and thus own a stake in the firm, resulting in an income often ten times as much as initially earned.

In many countries, lawyers and law firms enjoy privileges that make them attractive to white-collar criminals and crime. For example, money placed in a client account at a Norwegian law firm is strictly confidential. The law firm does not have to tell tax or other authorities about names or amounts. Knowing that some of this money flow freely to and from tax havens like the Cayman Islands and knowing that some of the money originates from white-collar crime makes the job of the prosecution extremely difficult (Vanvik, 2011).

Another example is Danish law firms where there is an "in kassu" system. Many inkassus are run by law firms, and they buy debts and chase "debtors" for many companies in Denmark. The reason is that unlike non-law firms, they are authorized and not subject to regulation. The only way a complaint can be filed is through the law firms' own organization Board of Lawyers (Trustpilot, 2013).

Information Control Strategy

Strategic substance defense is not necessarily the first defense strategy applied by the attorney in a white-collar case. The defense lawyer's very first goal can be to prevent that the police obtains evidence that is harmful to the client and prevent that information is applied by police detectives to define and justify a formal charge for crime.

At this stage, it is not laws and verdicts that are of concern to the lawyer. At this stage, all the lawyer is worried about is the flow of information that is transformed into evidence in police investigations. It is all about preventing the police from acquiring evidence, and making it difficult or even impossible for the police to understand pieces of information that they have obtained. It is all about stopping the investigation at an early stage, so that the case is closed. This is the defense lawyer's information control strategy.

Information control implies that documents are kept hidden, and that clients and witnesses do not talk to investigators and other persons in public positions. It may also imply that individuals are protected from the press, so that only the lawyer makes statements about the case. Information control strategy is applied ahead of substance defense strategy whenever a white-collar crime case first is detected by the media, which then cause an initial police investigations. If the lawyer is successful in strategic information control, then raw material for legal argumentation is kept hidden from public attention and use. The case for prosecution is weakened, because important pieces of information not known to the police are missing. The police do not know that information exists, and nobody is willing to tell them. If an investigation is considered a puzzle, where all pieces have to be in place to see the picture, then both lacking pieces as well as ill-placed pieces will make it difficult to perceive, understand and interpret the fragmented picture.

Detectives may find themselves in a lost case, and decide to close it.

If the police are aware of information that they so far have not been able to collect, the defense lawyer may argue that the requested information is difficult to retrieve and irrelevant for the case. Maybe the lawyer will argue that the information is confidential, out or date or linked to other problems. If the police already has collected the information, the defense lawyer may argue that the information cannot be applied in the specific case, because authorities have obtained it in a doubtful and critical way, such as torture or endless interrogation.

These arguments when performing information control are all about influencing the counterpart, either by convincing police it is not a good idea to press for information or press for charges, or by obtaining a court ruling stating that information should not be made available or should even be returned to the client or the client's lawyer. Procedure rules that support information control are communicated from the defense to the prosecution. For example, the lawyer may argue that the law prohibits search for or collection of specific documents. A prosecutor may argue that the law allows it, but nevertheless consider whether it is worth the fight with the defense lawyer at this stage.

A special case of information control occurs when it is a lawyer who is investigated by the police for white-collar crime, such as theft of client money placed on clients' accounts in the law firm. Client accounts in Norwegian law firms are confidential. The police have no access to client accounts, because account information may reveal information that violates the client-attorney privilege. As mentioned earlier, the attorney-client privilege is one of the oldest privileges known to the common law in the US and also in Norway. The privilege ensures that a client may provide information to his or her attorney, in

confidence, with the knowledge that such information is protected, and neither the client nor the attorney may be forced to disclose the information that has been shared to their judicial adversaries (Kopon and Sungaila, 2012). This privilege includes information about money on bank accounts managed by the attorney.

John Christian Elden is a well-known white-collar lawyer in Norway, who denies the police reading client mail or looking into client accounts. In 2011, the police accused two lawyers of white-collar crime and wanted to get insights into those lawyers' affairs. Elden reacted strongly (Kirkebøen, 2011: 7):

-The police abuses lawyers who only try to do their job.

When there are obvious reasons to believe that lawyers are involved in crime, they cannot hide behind confidentiality fences, police argued (Kirkebøen, 2011). Elden agreed with this, but the court refused police appeal for information access, because the judge agreed with Elden that the two lawyers could not be suspected of crime directly linked to their profession as lawyers. Elden argued that the police was hunting lawyers that only tried to do their defense job (Jonassen, 2011). Lawyer Elden was here successful in his information control strategy.

White-collar crime money is sometimes hidden in tax havens. Law firm Thommessen were asked by police to reveal individuals behind large sums of money transferred to tax havens via Thommessen accounts. Thommessen denied doing it, and the Supreme Court in Norway voted in favor of Thommessen. It was all about the attorney-client privilege, where money transactions are covered by lawyers' duty to handle information as confidential. Similarly, when tax authorities ask for insight, they are denied access for the same reasons (Reiss-Andersen, 2011). Law firm Thommessen was here successful in the firm's

information control strategy.

Strategic information control can be applied by stopping or limiting the flow of information from the client to law enforcement agencies, by preventing the police from exploring and exploiting various sources for information collection, or by requesting the non-used return of documents from the police (Mann, 1985: 7):

> The defense attorney's aim is to instruct the client or third party holding inculpatory information how to refrain from disclosing it to the government and, if necessary, to persuade or force him to refrain.

Revealing information in terms of inculpatory news represents key facts that show or prove that a person has been involved in a criminal act. Inculpatory information may be applied by law enforcement agencies as evidence to clear the question of guilt. Revealing information in terms of exculpatory news represents key facts that show or prove that a person has not been involved in a criminal act. The defense lawyer attempts in the information control strategy to stimulate the flow of exculpatory information and prevent the flow of inculpatory information.

A defense attorney's active information control strategy is normally kept hidden as a secret to other parties, including the client. Success is often dependent upon the lack of awareness among other parties, including the press.

When an attorney in a meeting in the law firm advices a client not to answer certain questions in the next interrogation, and instead answer that he does not know, or that he will have to check accounting first, then the client is subject to information control. The attorney has taken an initiative towards the client to

control an information flow. The police know nothing about it. A result might be that the investigation is delayed or even terminated.

A well-known defense lawyer as well as judge in Norway – Langbach (1996: 134) – phrased the question whether it is unethical to try to delay a case:

> From the perspective of a defense lawyer, it is natural to have the view that it is the task of the prosecution to bring a case to court. If it is beneficial to the client to delay the case, and if delay can be caused by legal means, then it is ethically acceptable to do so. It is the task of the prosecution and the court to react to initiatives from the defense lawyer, and make sure progress occurs in the case. If the main goal of delaying a case is to make the case itself obsolete, then the lawyer has to consider his own reputation, when it becomes publicly known that he is an expert in delaying client criminal cases.

A purpose of delaying the case might be to make it obsolete after a number of years. Another purpose might be to reduce the prison sentence as a consequence of late court proceedings (Langbach, 1996).

A former police officer, now academic at a university in the UK, expressed following opinions about white-collar crime lawyers in a personal e-mail to the author of this book in 2013:

> As an ex-police officer I anecdotally know that solicitors lie and use all forms of diabolical half-truths to get clients off. They are entrepreneurial in their use of knowledge and of systems to get results. Similar to detectives as entrepreneurs, they are continually working, lurking and getting results.

Information control does not only occur in white-collar crime cases. In many other criminal cases as well,

the attorney works to exclude pieces of evidence from law enforcement access and application. The attorney may argue that information is obtained by law enforcement in an illegal manner, or that information is misleading or irrelevant to the case. What makes white-collar cases so special is that strategic information control is of key importance – sometimes the most important activity – to successfully defend a client and to help him go free. In other kinds of cases, information control is mainly a tactical maneuver to detract attention or delay the case temporarily.

Information control strategy is supported by the attorney-client privilege as well as the work-product privilege. While the attorney-client privilege shields any information communicated to an attorney, the work-product privilege protects information that can fairly be said to have been prepared or obtained because of the prospect of litigation (Oh, 2004).

Controlling Information Sources

Strategic information control is concerned with the flow of damaging information about the client. A defense attorney will attempt to prevent police from exploring and exploiting various sources of information collection. Strategic information control implies taking control over information sources, which the police will or is likely to contact. The police have many information sources when they investigate a crime case, and these sources can to a varying extent be influenced by a defense attorney.

In intelligence work pertaining to investigating and preventing white-collar crime, a variety of information sources are available, such as victim reports, witness reports, police reports, crime scene examinations, historical data held by police agencies (such as criminal records), prisoner debriefings,

111

technical or human surveillance products, suspicious financial transactions reporting, and reports emanating from undercover police operations. Similarly, internal investigation units in business organizations can apply intelligence sources. Intelligence analysis may also refer to the governmental records of other governmental departments and agencies, and other more open sources of information may also be used in elaborate intelligence assessment. Most of the information used to prevent and investigate financial crime is sensitive, complex, and the result of a time consuming process.

According to this perspective, it is important for strategic criminal analysts to be aware of the variety of information sources available. In this book we have chosen to classify information sources into the following categories:

1. *Interview*. By means of *interrogation* of witnesses, suspects, reference persons and experts, information is collected on crimes, criminals, times and places, organizations, criminal projects, activities, roles, etc.

2. *Network*. By means of *informants* in the criminal underworld as well as in legal businesses, information is collected on actors, plans, competitors, markets, customers, etc. Informants often have connections with persons that an investigating colleague would be unable to formally approach.

3. *Location*. By analyzing potential and actual *crime scenes* and potential criminal scenes, information are collected on criminal procedures, preferences, crime evolution, etc. Hot spots and traces are found. Secret ransacking of suspicious places is one aspect of this information source. Pictures, in terms of crime scene photographs, are important information elements.

4. *Documents*. Studying documents obtained through *confiscation* may provide information on ownership, transactions, accounts, etc. One such example is forensic accounting, which is the application of accounting tasks for an evidentiary purpose. Forensic accounting is the action of identifying, recording, settling, extracting, sorting, reporting and verifying past financial data or other accounting activities for settling current or prospective legal disputes, or using such past financial data to project future financial data in order to settle legal disputes.

5. *Observation*. By means of *anonymous personal presence*, both individuals and activities can be observed. Both in the physical and the virtual world, observation is important in financial crime intelligence. An example is digital forensics, where successful cybercrime intelligence requires computer skills and modern systems in policing. Digital forensics is the art and science of applying computer science to aid the legal process. It amounts to more than the technological, systematic inspection of electronic systems and their contents for evidence or supportive evidence of a criminal act; digital forensics requires specialized expertise and tools when applied to intelligence in important areas such as the online victimization of children.

6. *Action*. For example, *provocation* and actions conducted by the investigating unit to cause reactions that yield intelligence information. In the case of the online victimization of children, online grooming offenders in a pedophile ring are identified and their reaction to provocation leads intelligence officers to new nodes (persons, computers) and new actual and potential victims. While the individual pedophile is mainly concerned with combining indecent image impression and personal fantasy to achieve personal satisfaction, online organizers of sexual abuse of children

do so for profit. Police initiate contact with criminal business enterprises making money from pedophile customers by claiming online to be a child of 9 years, for example. Undercover operations by police officers also belong to the action category of information sources.

7. *Surveillance*. Surveillance (visual and auditory) of places by means of *video cameras* and microphones belong to this information source. Many business organizations have surveillance cameras on their premises to control entrants and also other critical areas. It is possible for the police to listen in on discussions in a room without the participants knowing. For example, police in a district identified the room used by local Hells Angels members for crime planning and installed listening devices in the room.

8. *Communication control.* Wiretapping in terms of *interception* belongs to this information source. Police listen in on what is discussed on a telephone or transmitted via a data line without the participants being aware. In the UK, the interception of communications (telephone calls, emails, letters, etc.), whilst generating intelligence to identify more conventional evidential opportunities, is excluded from trial evidence by law — to the evident incredulity of foreign law enforcement colleagues.

9. *Physical material.* This is the investigation of material in order to identify, for example, *fingerprints* on doors or bags, or material to investigate blood splatters and identify blood type. Another example is legal visitation; this is an approach to identify illegal material. DNA is emerging as an important information source, and is derived from physical material such as hair or saliva from a person. One approach to physical material collection is police search.

10. *Internet*. As an *open source*, the Internet is as important for general information and specific happenings to corporate crime intelligence as to everyone else. It is important to note that use of open sources is by no means a new activity and nor is it a new phenomenon of the Internet, which is in itself not a source, rather it is a tool used for finding sources. Also, there are risks of using open sources such as self-corroboration.

11. *Policing systems*. *Police records* are readily available in most police agencies. For example, DNA records may prove helpful when DNA material from new suspects is collected. Similarly, corporate social responsibility units may collate and develop records which do not violate privacy rights.

12. *Employees*. Information from the *local community* is often supplied in the form of tips to local police, using law enforcement tip lines. Similarly, a corporate social responsibility unit can receive tips from employees in various departments.

13. *Accusations*. Victimized persons and goods file a *claim* with the corporate investigation unit or the unit for corporate social responsibility.

14. *Exchange*. International *policing cooperation* includes exchange of intelligence information. International partners for national police include national police in other countries as well as multinational organizations such as Europol and Interpol. Similarly, trade organizations and other entities for business organizations create exchanges for financial crime intelligence.

15. *Media*. Intelligence officers are exposed to the *news* by reading newspapers and watching TV.

16. *Control authorities*. Cartel agencies, stock exchanges, tax authorities and other control authorities are *suppliers of information* to the corporate executives in the event of suspicious transactions.

17. *External data storage*. A number of business and government organizations store information that may prove useful in financial crime intelligence. For example, telecom firms store data about traffic, where both the sender and the recipient are registered with date and time of communication.

All these information sources have different characteristics. For example, information sources can be distinguished in terms of the extent of trustworthiness and accessibility.

Prisons and other correctional environments are potential places for several information sources and production of intelligence useful to law enforcement. The total prison environment, including the physical plant, the schedule regimens of both staff and inmates, and all points of ingress and egress can be legitimately tapped for intelligence purposes, in countries such as the US. Since organized criminals are often sophisticated in terms of using, or exploiting, the correction environment to their advantage, police and correction personnel need to be immersed in the intelligence operations and strategies of their respective agencies. Legal visitation and escape attempts are sources of information. Prisoners are reluctant to testify, and their credibility is easily attacked. Communication control is derived from inmate use of phones, visits, mail, and other contacts.

The 17 information sources can be classified into two main categories. The first category includes all person-oriented information sources, where the challenge in corporate intelligence is communication with individuals. The second category includes all media-oriented information sources, where the challenge in

corporate intelligence is the management and use of different technological and other media. This distinction into two main categories leads to the following classification of 17 information sources:

A. *Person-oriented information sources*

    1 Interrogation in interview

    2 Informants in network

    5 Anonymous, individual presence undercover for observation

    6 Provocation through action

    12 Tips from citizens in local community

    13 Claims in accusations

    14 Information exchange in inter-organizational cooperation

B. *Media-oriented information sources*

    3 Crime scenes at location

    4 Confiscated documents

    7 Video cameras for surveillance

    8 Interception for communication control

    9 Physical materials such as fingerprints

    10 Open sources such as Internet

    11 Internal records in policing systems

    15 News in the media

    16 Supply of information from control authorities

17 External data storage

Combinations of information sources are selected in investigation and intelligence according to the subject of white-collar crime. When forensic accounting is applied as document study, it is typically combined with interviews and observations, thereby integrating behavioral aspects into forensic accounting.

Controlling Information Benefits

Information is the raw material in all police work. The relative importance of and benefits from pieces of information is dependent on the relevance to a specific crime case, the quality of information, and the timeliness of information. Information value in police work is determined by information adaptability to police tasks in an investigation. A smart defense lawyer can reduce information value, information quality, information security, legal and ethical compliance, information resource, as well as information requirements in law enforcement.

Chaffey and White (2011) distinguish between the following six information management themes:

1. *Information value* representing the importance. Information can be prioritized in importance and better-quality sources identified so that improved information is delivered. Information value can be assessed in terms of its fitness for policing purpose. Once information has been identified as valuable, plans can then be put in place to protect it from deletion or modification, share it within a defined audience, and improve its quality. Lower-value information can either be improved to increase its relevance to police officers or removed from detailed reports to produce summaries.

2. *Information quality* in terms of content, time and form. The content dimension is concerned with accuracy (information correct), relevance (information can support decision making), completeness (no data items missing), conciseness (information is not too detailed), and scope (may be broad or narrow, internal or external to the organization). The time dimension is concerned with timeliness (available when needed, immediate or real-time information is common requirement, alerts are also a requirement), currency (information is up to date), frequency (information supplied at appropriate regular intervals), and time period (a time series covers the right period of time). The form dimension is concerned with clarity (information readily interpreted), detail (both summary 'dashboard' views and detailed 'drill-down' views may be required), order (data sorted in a logical order and can be modified), presentation (tabulations and graphs), and media (hard copy from print-outs, and soft copy electronically stored and displayed).

3. *Information security* to safeguard from accidental and deliberate modification or deletion by people and events. Information and the media, on which it is held, may be destroyed by security breaches. Information security refers to protection of information and the systems and hardware that use, store, and transmit that information. The key features of information security are availability (only to those eligible), confidentiality (only to those eligible), and authenticity and integrity (safeguarding accuracy of information).

4. *Legal and ethical compliance* to handle sensitivity. Information is held about individuals on computer systems. Governments have developed many laws both to protect individuals and to give government agencies access to information which may be needed for law enforcement.

5. *Information resource* for knowledge management. The police are collections of individuals that possess knowledge. Information becomes knowledge when it is interpreted by individuals and put into context. Knowledge is information combined with reflection, interpretation, and context, where skills and opinions are added to make sense to new insights. Knowledge becomes information when it is codified and stored in information systems.

6. *Information requirement* to technology. Information is handled electronically by computer systems. Technology support to achieve the objectives of the information management strategy involves selecting relevant information systems applications and infrastructure.

A defense lawyer can reduce information benefits by lower fitness for policing purposes. Information quality can be reduced in terms of less accuracy, less relevance, less completeness, less conciseness, and lack of scope. Information security can be violated by modification or deletion of information elements. Lack of legal and ethical compliance can be stressed by pinpointing incidents of information leakage from the police in the past. Information as a resource is harmed by making it more difficult for the police to make sense to new insights. Finally, information can be passed on to the police in a format not suited for computer systems.

Controlling Third-Party Information

Mann (1985) emphasized the difficulties of controlling information held by third parties. It is common knowledge among defense attorneys that many persons give information to the government, even after an investigation is underway. Controlling information held by third parties has the same goal as all other

information control activities, i.e. keeping inculpatory information from reaching the government. But the means must be adapted because the source of information, whether a person or a document, is not directly controlled or possessed by the client.

Mann (1985: 157) distinguishes between friends and enemies as third parties:

> Third parties holding inculpatory information may be friends or associates of the client, who are willing to cooperate if they are located in time and proper requests are made. Or they may be persons with directly adverse interests, who perhaps are loyal to government interests or who have other reasons for wanting to provide information to the government that inculpates another person.

Several strategies are used by attorneys to attempt to control the statements made and documents held by third parties. The defense attorney may use the client's power and influence to control third-party interactions with government agents, or the lawyer may try to influence third parties through representation of multiple clients, or through other lawyers.

If a third-party is perceived as an uncooperative enemy, it is typically a person who is openly hostile to the client. The hostile third-party can refuse to meet with the defense attorney, provide partial and misleading statements, and make outright and sometimes false accusations. According to Mann (1985), it is as important for the defense attorney to interview hostile informants as friendly informants. With a properly aggressive approach the hostile informant can often be drawn into an interview and caught in a contradiction, or he can change his story, provide exculpatory information unknowingly, or otherwise supply material that the attorney can use to impeach his credibility.

Characteristics of Lawyers

Out of 277 convicted white-collar criminals, 238 convicts were defended by a male lawyer and 39 convicts defended by a female lawyer. Among 277 white-collar convicts, there were 253 men and 24 women. An emerging question is whether men defend men, and women defend women. This was not the case, as 20 women were defended by men, and 4 women by women. This reflects the general gender distribution and cannot tell anything about gender preference in attorney selection. While 16.7 percent of the women selected a female lawyer, 13.8 percent of the men selected a female lawyer as well. In total, women represent 14.1 percent of the lawyers and 9 percent of the convicted criminals.

There are a total of 172 lawyers in the sample, which implies that each lawyer defended 1.6 criminals on average. The lawyer with most clients defended 20 convicts in the sample.

Average age of lawyers was 51 years, while average age of criminals was 48 years old. The youngest lawyer was 26 years, while the oldest was 83 years. Average taxable income was 200.000 US dollars (1.253.000 Norwegian Kroner), and the best earning attorney had an income of 2 Million US dollars.

Correlation analysis indicates a positive relation between the number of white-collar crime clients and lawyer taxable income. Furthermore, older lawyers have higher incomes. No relationship was found between number of clients and age of lawyer.

Some lawyers are more famous than others. How well-known a lawyer is to potential clients and in the public, might be measured in terms of media coverage. Financial newspapers represent a relevant source of fame for white-collar people. The largest Norwegian financial newspaper, Dagens Næringsliv, was searched for hits on their website. The most famous lawyer achieved 219 hits, followed by the second

most famous lawyer with 112 hits on the newspaper web site.

This fame factor in terms of web site hits was correlated with other variables for the lawyers. A significant and positive relationship emerged between fame factor and number of clients, as well as between fame factor and lawyer income. Results are listed in Table 1.

	Average	Deviation	Clients	Age	Income	Fame
Clients	1.6	1.8	1	-.059	.576**	.947**
Age	51.3	11.3		1	.185**	.002
Income	1.3	1.4			1	.608**
Fame	8.1	24.0				1

Table 1: Correlation analysis for white-collar crime lawyers

Furthermore, there is significant correlation between income and clients, as well as income and age. In the first two columns, average values and standard deviations are listed. The average number of white-collar clients for each white-collar lawyer in the sample over a three-year period is 1.6 criminals, with a standard deviation of 1.8 criminals.

White-collar criminals commit their crime in terms of a money amount. The amount of money varies from case to case, where the average in the sample is 8 million US dollars (51 million Norwegian Kroner). The largest sum of money in a single case was 200 million US dollars in a bank fraud by a large company.

An interesting issue is whether characteristics of lawyers can somehow predict money amount and jail

sentence. Correlation analysis indicates that significant relationships exist between crime amount and lawyer fame (.141*), lawyer income (.234**) and lawyer age (.145**). There is no significant correlation between number of clients and crime amount.

White-collar criminals in the data base were convicted to prison sentence. Average jail sentence for 277 convicted white-collar criminals was 2.3 years. An interesting issue is whether characteristics of attorneys in any way might predict sentence length. Potential predictors include number of clients, lawyer age, lawyer income, and lawyer fame. Correlation analysis indicates no such relationships.

When disregarding characteristics of defense lawyers, the most important predictor of a jail sentence for white-collar criminal is the crime amount. With a significant and positive correlation coefficient (.249**), imprisonment increases as crime amount grows in the sample.

So far, it is established that prison sentence becomes more severe with a larger crime amount, and the crime amount is larger when a famous lawyer is defending the case. When these two factors are combined with the number of clients, some interesting results emerge from regression analysis:

- A larger amount of money in the crime is positively related to a longer jail sentence.

- A defense lawyer with more fame is positively related to a shorter jail sentence.

- More defense lawyer clients are positively related to a longer jail sentence.

These regression results are significant and taken together amount, fame and clients can predict variation in prison sentence, as listed in Table 2.

	Slope	T-value	Significance
Number of white-collar clients	0.183	2.552	.011
Web site hits for lawyer fame	-0.15	-2.516	.012
Amount of money involved in crime	0.03	4.683	.000

Table 2: Regression analysis with jail sentence as dependent variable

All three factors in the table are significant from a statistical point of view (p<.05). The interesting minus sign in front of fame indicates that fame is related to shorter jail sentence for the client.

Discussion

In the study above, entrepreneurial characteristics in lawyers representing white-collar criminals were determined, based on the Norwegian context. Statistical analysis indicates that the higher the amount of money involved in a white-collar crime, the longer the jail sentence imposed. Moreover, it demonstrates that hiring a defense lawyer with a reputation (fame) is positively related to a shorter jail sentence whereas hiring a defense lawyer with numerous clients, results in the client receiving a longer jail sentence. Using agency theory, we argue that white-collar defense agents exhibit entrepreneurial characteristics in their everyday working practices.

The role of the white-collar defense agent is to act entrepreneurially and engage in damage limitation to author a plausible defense based on their legal experience and knowledge with the intention of extracting their client from their predicament. This contrasts sharply with Osiel's (1990) view of the moral ideal of

legal service, but fits his view of the lawyer-client relationship as being loyalty to the client. We make it clear here we are talking about lawyers who serve their client "*Zealously within the bounds of the law*" (Atkins, 1995) and not so called 'gangland' lawyers who act criminally out-with the law (Morton, 2013). In an entrepreneurial culture, a law firm is both conscience and continuity (Gupta, 2005), but the legal system operates competitively on a 'winner-takes-all' basis.

Conclusion

When prosecuted in court, white-collar criminals are defended by specialist lawyers. Law is at once increasingly broad and increasingly specialized (Miller et al., 2012). This makes legal knowledge an entrepreneurial endeavor. An analysis of the entrepreneurial characteristics of lawyers adds an important insight into our understanding of the nuances of white-collar crime. The notion of the lawyer as entrepreneur and of the entrepreneurial nature of practicing law is an emerging one (Osiel, 1990; Gupta, 2005; Miller et al., 2012). Again entrepreneurial characteristics are at play. It is all about coming up with different, novel approaches to solving the problem. This is the basis of creative thinking in business, and in many ways the white-collar criminals who know they are guilty, and who is looking for a creative solution to a business problem.

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Business Intelligence Rationalization: A Business Rules Approach

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Abstract

Business process intelligence provides information to improve organizational performance. Generally such information not only improves an organizations ability to accomplish business objectives, but may also lead to the identification of information that could facilitate competitive advantage. This paper outlines an approach to rationalize business performance through dimensional modeling by utilizing an information flow model that involves the specification of activity dimensions during business process modeling. The paper illustrates the concepts through a marketing business process Lead to Forecast prototype which is implemented on Oracle database.

Keywords: Business Intelligence, Business Rules, Oracle, Star Schema, Business Process

Introduction

Business intelligence (BI) in general is a collection of tools and methodologies that transform the raw data that companies collect from their various operations into useable and actionable information (Cody et. al, 2002; Dayal et. al, 2009; Kimball and Ross, 2010; Olszak and Ziemba, 2007). Generally such information has assisted organizations in (i) discovering strategic and tactical trends and opportunities through data mining and predictive analytics (Hair, 2007; Watson & Wixom, 2007), and (ii) improving the performance of their business processes to increase organizational effectiveness (Dayal et. al, 2009; Elbashira et al, 2008; Marjanovic, 2010;   Marshall and Harpe, 2009; Wise, 2008).

Besides discovering trends and opportunities that may improve business objectives, BI often includes mechanisms to rationalize business performance by outlining possible reasons, along with suggestions for business actions (Horkoff et. al, 2012; Krieger et. al, 2008). One approach to facilitate business performance rationalization may involve (i) modeling of business process information to understand the context of information utilized during business process activities, and then (ii) outline business rules that

can facilitate performance rationalization. As any organization is a collection of business processes, any rationalization of business performance should be within the context of business rules representing business processes.

Business rules represent the encoded knowledge of a company's business practices (Halle, 2002; Ross, 2003). From a business intelligence perspective, business rules can also facilitate automatic interpretation of data and rationalization of business performance, besides suggesting problem remedies (Blasum, 2007). Business rules by definition are typically expressed declaratively in condition-action terminology represented as IF*condition* THEN *action* format A condition is some constraint, while the action clause reflects the decision or advice. Figure 1 shows an example of a business rule that describes a set of constraints applicable for approving a loan application.

```
IF      credit risk is High AND
        debt to income  is less than 40% AND
        loan requested is less than $50,000
THEN  approve with 5% APR
```

Fig 1 Sample Business Rule

There have been attempts toward utilization of business rules for business intelligence analysis (Debevoise, 2007; Arigliano et. al, 2008; Mircea and Andreescu, 2009). However, these approaches tie business rules to measures that are defined a priori through existing policies without much emphasis on database analysis. In general, these approaches try to develop business process metrics and then express them through business rules. A complementary approach could be to utilize the data warehouse dimensional modeling approaches like star schema (Agrawal et. al, 1997; Kaula, 2009; Kimball and Ross, 2002; Kimball et. al, 2008; Ponniah,2010; Sen and Sinha, 2005; Wrembel and Koncilia, 2007) to identify business rules which can then assist in the rationalization of business performance. Since dimensional models measure the use of information by a business process, such an approach would make the business performance rationalization more responsive to business process changes and policies.

This paper outlines an approach to (i) develop an information flow model that provides the context for information utilized during business process operations, and then (ii) utilize information from the information flow model to develop dimensional models like star schema to understand business performance through business rules. The paper illustrates the concepts through an adaptation of Oracle E-Business Suite Lead to Forecast business process, and is implemented with Oracle's PL/SQL language. Attempts at business intelligence rationalization is reviewed now, followed by information flow modeling concepts and the methodology to transform star schema into business rules for rationalization of business performance.

Review of Business Intelligence Rationalization

Existing research on rationalization of business intelligence performance falls in two strands: model based approach and artificial intelligence approach. The model based approach (Horkoff et. al, 2012) utilizes concepts familiar to business decision making - such as goals, strategies, processes, situations, influences, and indicators. It aims to help business users organize and make sense of the vast amounts of data about the enterprise and its external environment. However, the modeling is more focused on business users, and less on representation of business performance.

The artificial intelligence approach (Krieger et. al, 2008) offer semantic based or knowledge based approaches toward BI solutions. Even though these approaches are very detailed, they do not clearly reflect the BI performance through enterprise standards like star schema.

Information Flow Model

A business process model reflects how a business process works including how information and control are propagated. An information flow model on the other hand is a graphical representation of the "flow" of information through the process activities. Information flow modeling is valuable because it provides a basis for distinguishing data dependencies, control dependencies and artificially imposed implementation dependencies, which in turn, can lead toward flow optimization, identification of bottlenecks, finding locations for insertion of data validation monitors and opportunities for increased business analysis points (Loshin, 2003). Information flow models can also provide a basis for developing process intelligence models to improve business process working.

Even though information flow models in general are tied to business applications, they can also be modified to illustrate the flow of information among the stages (activities) of a business process. Figure 2 shows a generic outline of an information flow model.
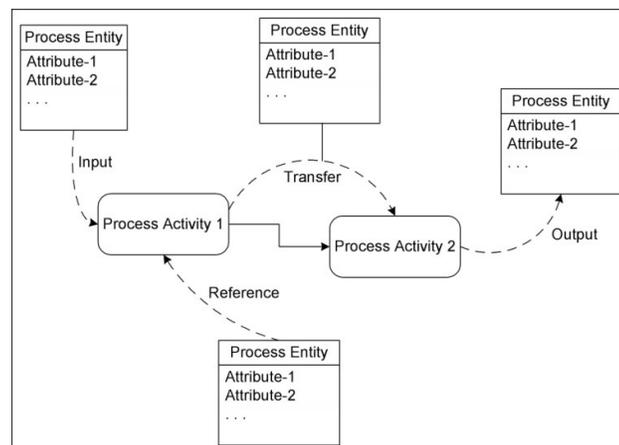
Fig.2 Information Flow Model

An information flow model (as shown in Figure 2) will consist of (i) process entities with activity dimension attributes, and (ii) four categories of information flows. Process entities represent collection of information that is of relevance to a business process activity from an analytical standpoint and represent the factors that influence business process performance.

The information flow categories are as follows:
1. There will be an "Input" flow that represents the dimensional information that flows into the business process.
2. There will be an "Output" flow that represents the dimensional information that flows out from the business process.
3. There will be a "Reference" flow that represents some additional dimensional information that may be needed to complete a business process activity.
4. There will be a "Transfer" flow that represents the dimensional information that is passed on from one business process activity to another.

Process entities are derived from database entities (as shown in Figure 3), and may contain same or less number of attributes of the transactional entity type. Process entity attributes are dimensional attributes that are deemed essential for the purpose of business process analysis. For instance, a Customer database entity type may have attributes like Customer Number, Name, Street, City, Zip, State, Email, Phone, Rank, JobTitle, PartyType, and ContactRole. But, a process entity type may only pick attributes like State, Rank, JobTitle, PartyType, and ContactRole from customer entity type.
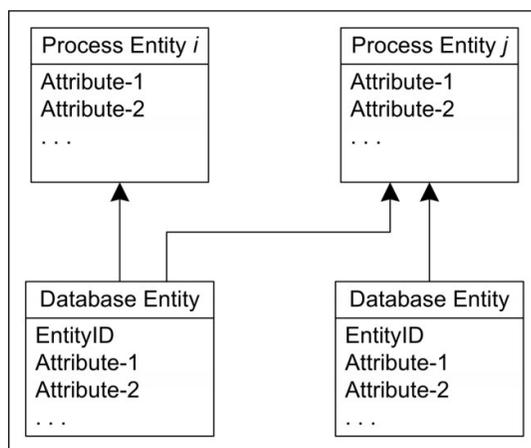
Fig.3 Database Entities based Process Entities

Depiction of business process information flow can be beneficial for (i) comprehending the nature of dimensional information that impacts business process activities, and (ii) understanding the flow of dimensional information within a business process. Process entities now can be represented in a data warehouse and become the basis of a star schema for process intelligence as shown in Figure 4. The fact

132

measures of the star schema will represent the measures that accomplishes the business process objectives. Business process intelligence as a result now gets more closely aligned with business process activities, as the process entity attributes impact can be directly referenced to such activities.
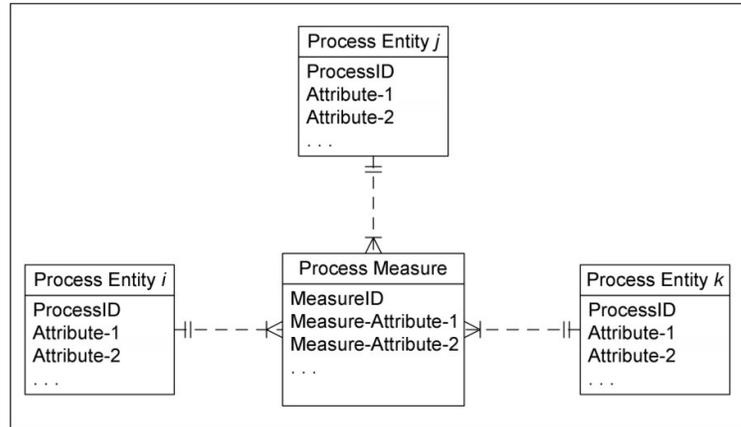
Fig.4   Process Entities based Dimensional Model

Figure 5 shows an example of an information flow model adapted from Oracle's Lead to Forecast business process. The Lead to Forecast business process model diagram is a simplification of business process as supported by Oracle E-Business Suite (ERP) software. It can be categorized into three stages: (i) generate sales lead, (ii) convert lead to opportunity, and (iii) opportunity to forecast.
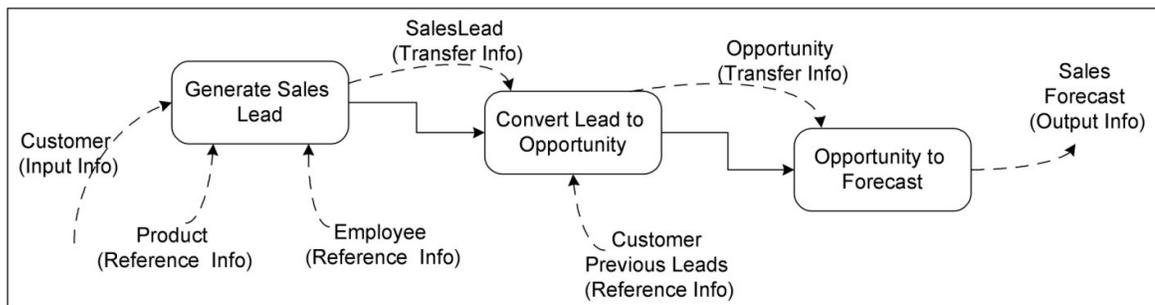
Fig.5   Lead to Forecast Business Process Information Flow Model

Generate sales lead is the initial activity that commences when a sales representative receives a call from a customer contact requesting the need for further assistance before placing an order. The details about a lead are recorded by the software automating the process, and a lead number is generated. Once the tasks associated with the lead have been completed and recorded, the sales representative assesses the lead potential and records the probability of the sale being accomplished. This moves the recorded lead to the next stage in the process where it is transformed into a sales opportunity. As the sales opportunity materializes, the software automating the process provides the ability to further transform the status of the opportunity to a forecast.
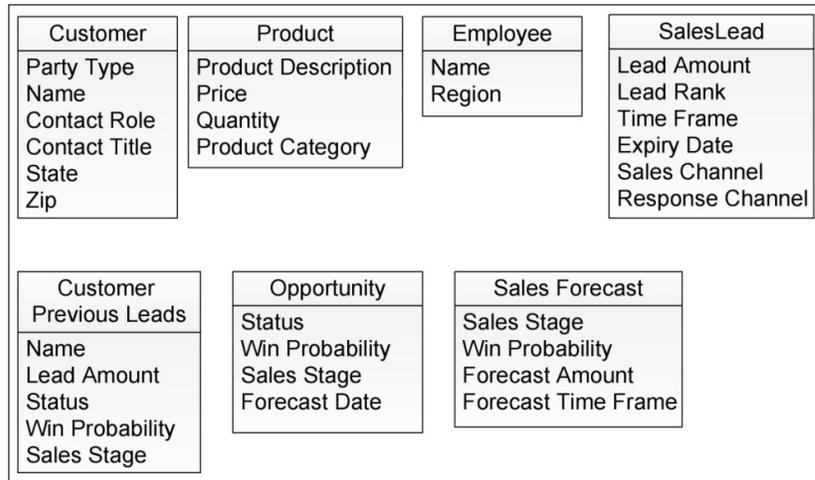
Fig.6   Lead to Forecast Business Process Information Flow Content

At the surface level the information flow model may seem similar to data flow models. However, the information flow model avoids some of the key tenets of data flow models like decomposition, leveling and data stores. Each process entity is simply a collection of attributes that can be utilized for performing business process intelligence. It should be something that a business process user can easily recognize and consider as a way to evaluate the efficacy of the business process. The contents of each information flow of the Lead to Forecast information flow model of Figure 5 are described in Figure 6.

In the information flow model similar process entity attributes may get repeated for different activities. This indicates the scope of dimension attributes affecting multiple activities. It is possible that the business process measure tied to business process objective may also be a dimension attribute. Also, the star schema analysis for the business process may consider some or all of the dimension attributes.

Transform Star Schema into Business Rules for Analysis - v1 section

Information flow model can assist in the development of business rules which can be set to show the information impacting business performance. The development of business rules based analysis involves: (i) dimensional modeling in the form of star schema based on information contents; (ii) representation of star schema into relevant business rules, and (iii) analyze business rules for business performance rationalization.

Star Schema through Information Flow Model

The information flow contents within an information flow model can assist in the structuring of the star schema. As the information flow contents are simple list of data elements, it is easy for the business user to select any data element that can serve as a measure attribute that needs to be the focus of performance measurement. Similarly the dimension attributes which are the factors that influence the performance

measure can also be selected from the information flow elements. In other words, the information flow model can provide a way to explore the impact of information on business performance.

To illustrate the structuring of the star schema through the information flow model consider the Lead to Forecast information flow model of Figure 5 and the associated information content list of Figure 6. Suppose one area of analysis is to know what information can improve the chances of turning a sales lead into an actual order. The information element that can provide this information is "Win Probability" in the Opportunity information flow. The higher the Win Probability, the better the chances of turning sales lead into an actual order. Now actual counting of high Win Probability values is a simple metric measure. An alternative approach could be to determine the impact of certain factors on Win Probability and then develop a relationship among these factors to Win Probability. The factors that impact Win Probability become the dimensions of the star schema and the relationship among the factors and Win Probability defines the business rules.

Since Win Probability evaluation occurs in the Convert Lead to Opportunity activity, the information flow model contents associated with the prior activities, which in this example is Generate Sales Lead activity become the dimensions. Figure 7 shows the star schema structure where Win Probability is the fact measure and Customer, Product, Employee, and SalesLeadcontents become the dimensions. The dimensions structure is not hierarchical. All relevant attributes are considered for dimension.
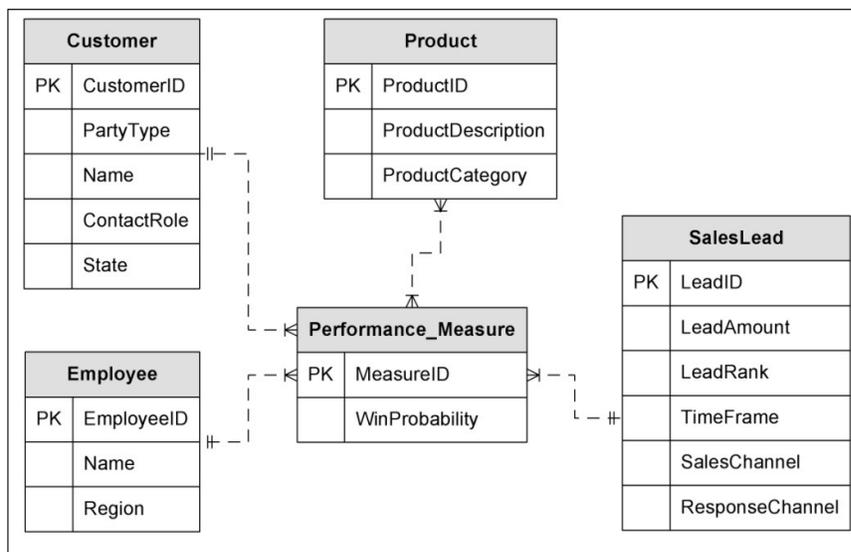
Fig.7   Lead to Forecast Business Process Star Schema

The table structure of the above dimensions and fact measures are as follows:

CUSTOMER

CustomerID	PartyType	Name	ContactRole	State
1	Organization	Business World	Functional User	CA
2	Organization	Business World	Executive	CA
3	Organization	Vision Conway	Functional User	CA
4	Person	Vision Conway	Middle Manager	CA
5	Organization	Business World	Functional User	NY
6	Person	Vision Conway	Middle Manager	CA

EMPLOYEE		
EmployeeID	**Name**	**Region**
1	Charles Taylor	CA
2	Joe Manchin	CA
3	Terry Govern	NY
4	Danielle Haden	NY

PRODUCT		
ProductID	**ProductDescription**	**ProductCategory**
1	Sentinel Deluxe Desktop	Desktop
2	Palm Handheld	Handheld

SALESLEAD					
LeadID	**LeadAmount**	**LeadRank**	**TimeFrame**	**SalesChannel**	**ResponseChannel**
1	200000	Cold Lead	One Week	Direct	Sales
2	200000	Hot Lead	Two Week	Indirect	Sales

3	50000	Medium Lead	One Month	Direct	Email
4	50000	Hot Lead	One Week	Indirect	User
5	500000	Cold Lead	One Month	Direct	Sales
6	500000	Hot Lead	Two Week	Direct	Sales

PERFORMANCE_MEASURE					
MeasureID	**WinProbability**	**LeadID**	**EmployeeID**	**ProductID**	**CustomerID**
1	80	1	1	1	1
2	85	2	1	1	2
3	60	3	2	2	3
4	60	4	3	1	3
5	85	5	1	1	5
6	90	6	4	1	5
7	50	1	1	1	1
8	90	2	1	1	1
9	50	3	2	1	3
10	50	4	3	1	3
11	85	5	1	1	4
12	90	6	4	2	5
13	80	1	1	1	1
14	90	2	1	1	2
15	60	3	2	1	3
16	80	4	3	1	1
17	60	5	1	1	3
18	100	6	4	1	5

137

19	50	1	1	1	1
20	70	2	1	1	3
21	80	3	2	2	3
22	70	4	3	1	1
23	100	5	1	1	5
24	90	6	4	1	5

Transform Star Schema into Business Rules

Once the star schema is queried, the specific dimension data elements (or factors) that affect Win Probability can be identified. The relationship of these dimension data elements (or factors) with Win Probability fact measure is then expressed through business rules. The logic of developing business rules based on star schema query is shown in Figure 8.

The logic is implemented through Oracle database language PL/SQL procedure. The implementation is PC based. Key features of the logic are as follows:

1. SQL queries (part of logic step 1) are developed. For example, two queries are provided that list dimension attributes for Win Probability greater that 70 and greater or equal to 80.

```
selectpartytype,saleschannel,leadrank,contactrole,productcategory
fromperformance_measure,saleslead,employee,product,customer
whereperformance_measure.leadid = saleslead.leadid and
performance_measure.employeeid = employee.employeeid and
performance_measure.productid = product.productid and
performance_measure.customerid = customer.customerid and
winprobability> 70;


selectpartytype,saleschannel,leadrank,contactrole,productcategory
fromperformance_measure,saleslead,employee,product,customer
whereperformance_measure.leadid = saleslead.leadid and
performance_measure.employeeid = employee.employeeid and
performance_measure.productid = product.productid and
performance_measure.customerid = customer.customerid and
winprobability>= 80;
```

2. Once the queries are executed, the procedure counts the instances of each attribute in the query; if the count for an attribute is high (say 80%) then that attribute does have strong influence over the metric measure (part of logic steps 2 through 4).

3. Transfer each attribute that has high count to a data structure that is at the end expressed in the form of a business rule (part of logic step 5).
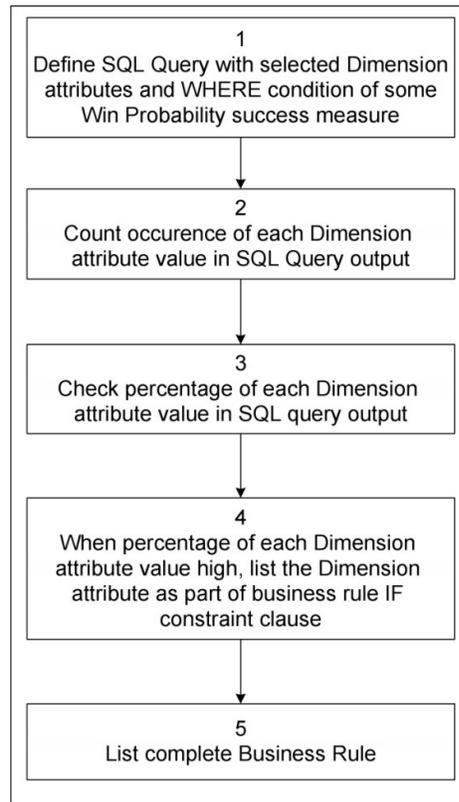
Fig.8   Business Rules Logic

The dimension data element factors that influence Win Probability vary depending on the nature of success probability. Figure 9 shows instances of dimension factors that impact Win Probability greater than 70 or 80.
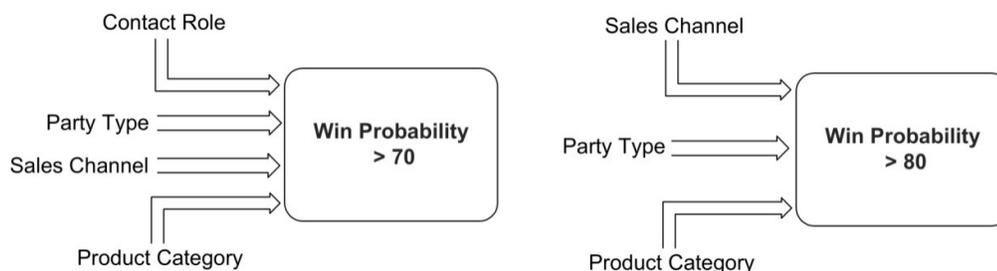
Fig.9   Dimension factors affecting Win Probability

139

Win Probability is the performance measure. Now, once the dimension factors that influence the Win Probability performance measure have been identified, the relationship among the dimension factor values and the Win Probability measure can be expressed as a business rule wherein the IF constraint represents the dimensional factor values, while the THEN action represents the fact (Win Probability) performance measure value. The following are two instances of business rules resulting from the execution of the PL/SQL procedure.

Business Rule 1:
    IF Party Type = Organization AND
    Sales Channel = Indirect AND
    Contact Role = Functional User AND
    Product Category = Desktop
    THEN Win Probability > 70

Business Rule 2:
    IF Party Type = Organization AND
    Sales Channel = Indirect AND
    Product Category = Desktop
    THEN Win Probability >= 80

The implementation is limited to one procedure to illustrate the efficacy of the concept. It is possible to have other procedures either for another Win Probability performance measure value or for some other measure like Win Probability. These procedures can generate additional business rules for the performance measure with different factors. In general the rules should be consistent with the star schema structure.

Business Intelligence Rationalization

Once the business rules have been defined, business intelligence based rationalization of Win Probability can be outlined. In this analysis, the dimension factor values can represent the reasons Win Probability will be beyond specific values. In other words, as per Business Rule 2, Win Probability >= 80 happens because Party Type = Organization, Sales Channel = Indirect, and Product Category = Desktop.

Once the business rules indicate rationalization for business performance, the information flow model can now assist in identifying the process activity that can be monitored for specific information content. For example, if there are too many Moderate Medium Lead (Lead Rank) which result in lowering the Win Probability then the Convert Lead to Opportunity process activity can advise the salesperson to either forgo the Lead or ensure such Lead Ranks are not entertained.

Conclusions

Business intelligence is all about improving decision making within an organization. By presenting the latest information to the right people at the right time the quality of decisions as well as their timeliness can be improved. As organizations focus on making smart, intelligent decisions to compete successfully, a key aspects of proper business intelligence deployment is the rationalization of business performance from top to bottom across business processes and functional areas.

This paper provides a business rules approach to develop business process performance rationalization. Unlike the existing approaches (Debevoise, 2007; Arigliano et. al, 2008; Mircea and Andreescu, 2009), the proposed approach utilizes the information flow model to develop the data warehouse repository for outlining business rules to rationalize business performance. Use of multi-dimensional modeling to develop business rules and consequent rationalization also results in more dynamic monitoring of business process operations.

Further research is ongoing to enhance the approach by embedding more complexity in the analysis of dimensional model for business rules specification as a way to improve rationalization specification. These enhancements can be in the form of (i) analysis on two or more performance measures within the same star schema including the impact such performance measures have on each other, and (ii) analysis from the perspective of family of separate star schemas or constellation schema (Ponniah, 2010) wherein multiple performance measures may share similar dimensions across different business processes.

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Effect of Psychological Empowerment, Distributive Justice and Job Autonomy on Organizational Commitment

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ABSTRACT

The purpose of this study was to examine the effect of job autonomy, psychological empowerment and distributive justice on organizational commitment of public sector university employees. The data of this study was of primary nature and collected with the help of questioner. 299 respondents from different public sector universities participated in this study. In this research organizational commitment was taken as dependent variable and other three variable such as job autonomy, psychological empowerment and distributive justice were taken as independent variables. The finding of this study suggests that all three independent variables have significant impact on dependent variables.

INTRODUCTION

The economy is undergoing a social revolution globally because of the increase in the competitive business market (Kramer & Tyler, 1996; Mayeret al., 1995). Previous history indicates that competitive organizations used rigid bureaucratic structures, strict policies and procedures to manage their employees during the period of the industrial revolution (Brown, 1969; Shaw, 1997). These strict and bureaucratic type structures created distrust social atmosphere among employees especially among management which encouraged poor relationships (Shaw, 1997).

In this context, socially aware organizations started to move away from the professional bureaucratic structuretowards enhancing an atmosphereof trust with a common interdependence between employees, combined capital and a loyal structure of the board within the second half of the 20th century (Shaw, 1997).

From past decades several researchers have explored a number of variables that pave way for the success of the organization (Angle & Perry, 1981; Cook & Wall, 1980; Koeszegi, 2004). Some of that variables are organizational commitment (Mathieu &Zajac, 1990; Mowday et al., 1979; Meyer & Allen, 1991); job autonomy (Breaugh, 1985; Shaw, 1997); job satisfaction (Mcfarlin& Sweeney, 1992; Porter et al., 1974); empowerment (Spreitzer, 1992, 1995; Conger &Kanungo, 1988; Dee et al., 2003; Staples, 1990); organizational justice (Cropanzano&Ranall, 1993;Mcfarlin& Sweeney, 1992) and perceived organizational support (Eisenberger et al., 1990).

Some other variables that also come to promote 'human element' of organization commitment are organizational citizenship behavior (Konovsky& Pugh, 1994) and employee trust (Cook & Wall, 1980; Shaw, 1997). Furthermore employees' trust towards management and fellow workers has been directly related to outcomes regarding to

achieve the organizational success (Davis et al., 1995), employee involvement in their assigned task (Shaw, 1997),

improved levels of team performance (Dirks, 1999) and further low turnover intentions (Costigan et al., 1998)

To enhance trust & organizational commitment of the employee which are beneficial for the success of the

organization, employees have to be empowered and given satisfied and friendly environment. Rude behavior like

tardiness, absenteeism and turnover all have been found to be inversely related to the empowerment, justice and

organizational commitment (Yousef, 2000). Furthermore all these cause to enhance the output and effectiveness of

the organization (Buitendach&De Witte, 2005). This also been assumed and caused for the employees to remain the

part of the organization and exert full potential to perform at a higher level.

Organizational commitment is considered and reflects as an approachtowards a state of mind of attainment, and

recognitions to the purpose of commitment (Morrow, 1993). Organizational commitment is the fundamental and

necessary goal of any organization. It is necessary for the existence of the organization (Yavuz, 2010). Employees

become extra productive, loyal and have more capability and accept the additional responsibilities toward the

assigned task due to the high level of organizational commitment which resulting the cost lesser for the

organization. Organization commitment(OC)is associated with workforce constancy (Steers, 1977), institute

environment beneficial to education, enhanced student achievement opportunities, increase relationships between

superior and lower, minimize the turnover (Mowdayet al., 1982), reduce leave intention rate, cause low

absenteeism(Cohen, 1993; Zahra, 1984), increase organizational citizen behavior by suggesting improvement,

concealing and assisting colleagues as well as adding extraordinary efforts towards the organization(Brief

&Motowidlo, 1986).

Several researchers have explored the individually impact and relationship ofpsychological empowerment, job

self-sufficiency and organizational justice towards the organizational commitment. As the basis of employees' performance job autonomy and organizational commitment broadly explored in most of the literature of management (Bodla& Danish,2009;Allen & Meyer, 1990). From the past researches it has been explored that produced organizational justice engage in recreation a fundamental role in the satisfaction and performance of the employee toward the organizational commitment (Adams, 1965;Cropanzano& Randall,1993; McFarlin&Sweeney 1992; Sweeney &McFarlin, 1997). Similarly there are numerous studies which highlighted and explored the relationship between empowerment and organizational commitment (Baker, 2000; Mowday et al.,1982;Jandaghi et al.2010 etc)

Some of the organizational commitment outcomes result welfare and in benefit of the society as a whole.Frompreviousresearches it has been found that organizational commitment is associated with the institutional climate which is helpful for learning and improved expectations for student achievement (Dannetta, 2002;Ebmeier, 2003), enhanced learnerattainment opportunities (Kushman, 1992). Education belongs to necessities and society also required the education because it benefits the society all the way (Meyer & Allen, 1997;Mowday et al., 1982). Human capital is the unique assets of the organization which cannot be imitated. Most of the jobs require a great investment in the shape of training and development and employer meet all these to get ultimate benefit. Therefore it is in the best interest of the employer to retain the employee in the organization to get the maximum profit as well as return on investment of the employees and it will be achieved on the basis of organizational commitment

REVIEW OF LITERATURE

1.1 Organizational Commitment

Organizational commitment is considered to be the very important dependent variable in the theatrical research being conducted from last many decades of the organization (Mathieu &Zajac, 1990). Organizational commitment is just like the seasons and the job satisfaction is like the daily weather therefore organizational commitment is very important and stable variable (Perryer& Jordan, 2005). Well committed employees with the organization are more sincere to work harder and perform better, work efficiently and like to stay and remain in the organization (Mowday, 1998; Mowday et al., 1982). Organizational commitment also defined the one's strength, special identification in term of involvement towards the organization (Porter et al., 1974). Organizational commitment shows the emotional affection of employees to, attachment and association of work with his organization. Organizational commitment has come to know as a very important construct due to its strong liaison with job fulfillment, job attachment, absenteeism, turnover and supervisor-subordinate relations (Mathieu &Zajac, 1990; Michaels & Spector, 1982; Tett& Meyer, 1993; Bagraim, 2003)

Organizational commitment is an individual's recognition and associated with a particular organization. Researcher proposed three components of organizational commitment. First, one has strong faith in and recognition of the organization's goals and established values. Second, one has to be willing to exercisegreat efforts on behalf of the organization. Third, one has a strong aspiration to continue membership of that particular organization. (Porter et al., 1974). According to Levy and Williams (1998) organizational commitment can also be defined in term of strength of one's recognition with, and devoted association in the organization. Organizational commitment is greater than from job satisfaction because organizational commitment highlighting avaluablereaction to the entire organization while the later emphasis on usefulreaction to particular aspects of the job (Williams & Hazer, 1986).

Over the past many decades researchers and scientist have investigated many factors which cause to help employees in achieving organizational commitment and success (Allen & Meyer, 1990; Brown, 1969; Steers, 1977). Organizational success depends upon the organizational commitment due to its correlation and it has been broadly deliberated in the area of organizational psychology (Brown, 1969; Allen & Meyer, 1990; Meyer & Allen, 1991; Mathieu &Zajac, 1990; Porter et al., 1974; Mowday et al., 1979; Steers, 1977).

As part of social exchange in recent research trend organizational commitment has been to examine the work relationship (Eisenberger et al., 1990). For instance, the employeebecomes motivated and committed to the organization because of as the provider of job security, income as well as job continuity and consistency.All these are valuable for the employees which contribute a lot in his/ her well being. The social exchange trend has provided a clear explanation in the research as to why people form commitment attitudes and beneficial contribution to personal relationships within the organization (Driscoll & Randall, 1999;Eisenberger et al., 1990) .The attitude and belief in connection to the organization's commitment can be investigated by these questions of "why do people maintain commitment and loyalty?" or "why do people leave organization?" (Penner et al., 1997).

In another research undertaken by porter et al., (1974) observes organizational commitment as concerning three psychological processes (desire to stay, willingness to exert effort, and willingness to participate). Researchers recognized three sources of commitment: affective, normative and continuous. Affective commitment refers to the emotional attachment of the employee with the organization. Employee remains emotionally attached with the organization because he feelsgood fit for his personality traits and values. Normative commitment deals with the feelings of the employees to stay with the organization. The employees stay with the organization because he/ she ought to stay. Continues commitment refers to the understanding of the employee in connection to the associated

149

sunk costs such as accumulated sick and earned leaves and retirement funds with leaving of the organization.

1.2 Job Autonomy

As per the definition of job autonomy, it refers to the capacity and ability through which employees take stepsinfulfilment of job responsibilities. Job autonomy is very important characteristics of the job design (Breaugh and Becker, 1987). As per the Merriam Webster's Collegiate Dictionary (2001) definition, autonomy is "the quality of being self governing" (p. 78). Most of the researchers have defined autonomy in the sense of its relationship to the organizational work and role attributes (Blauner, 1964; Katz& Wrong, 1968).

Autonomy is considered to be a useful workplace feature. Autonomy has the vital role in the attitudes of employees and it also enhances the progress of the workers and leads the organization to the success. An employee on the job with autonomy shows and has positive attributes and better performance in critical and complex jobs atmosphere (Dodd &Ganster, 1996), and encouraging work attitudes (Cordery et al.,1991). This tendency can also be seen specifically in the teacher's profession. Several researches verified the fruitful role of autonomy in the teaching profession and it benefit the institute in different ways such as teacher retention (Parker et al., 2001; Stockard& Lehman, 2004; Guarinoet al., 2006), higher job satisfaction (Wisniewski, 1990; Johnson & Spector, 2007), resulting in high job performance and commitment in the institute (Blase& Kirby, 2009).

Job autonomy is also a very important social indicator and predictor of a variety of outcomes. Job autonomy is also considered to be a very important predictor of job satisfaction, organizational commitment, emotional distress and absenteeism (Spector, 1986 in his meta analysis of job autonomy). Karasek (1979) research focuses on the

importance of job autonomy because of its role to decrease the work associated stress level. Teachers with a greater level of job autonomy have lower stress levels and ultimately it leads towards the better outcomes as well organizational commitment. According to Ross et al.,(1992) found in his research that job autonomy have positive impact on job satisfaction and commitment because an employee with greater autonomy had higher job satisfaction and organizational commitment.

In a research undertaken by Hodson, (2001), considered the job autonomy a vital factor towards the dignity at work. According to Hodson (2001), worker should have the control over the work and assigned tasks in order to engage in purposeful work. Purposeful work has a number of endings ranging from job satisfaction to fulfilment of the necessities of life (Bandura, 1975 cited in Hodson 2001, p. 237)

In summation, job autonomy is a vital and central concept in the literature of sociology and its fruits are not limited only to the organizational commitment but also for the health of the employees. Employees with greater amount of autonomy are more satisfied, have good health and organizational commitment as well as many opportunities for the fulfillment of life's necessities.

On the basis of research question 1 and above discussion on the relationship between job autonomy and organizational commitment, the following hypothesis is proposed

H1: Job autonomy has a positive effect on organizational commitment

1.3 Empowerment

According to Lashley (1999), empowerment is a process that provides employees with control and autonomy over

the job in the shape of correct information that directly affect job performance of the organization and by rewarding employees for the continuous contributions made and with the power to make an influential decision being vested in employees.According to Fourie et al., (2010, p. 10), "research on psychological empowerment done as recently is still based on Spreitzer's (1995a; 1995b) groundwork, which operationalized and validated the construct"

There are two facets of empowerment: "empowerment as "behavior of a supervisor" who empowers his/her subordinates and the other is the "psychological state of a subordinate" resulting from his/her supervisor's empowering" as recommended by Lee and Koh (2001, p. 685). Empowerment is also defined by Brymer (1991), as the process of decentralizing decision making in an organization by which employees are given more discretion and autonomy by the management. However, many researchers and scientists agree that empowerment involves giving employees authority and latitude in a certain assigned task without neglecting the element of responsibilities that come along with it. (Bowen & Lawler, 1994; Conger &Kanungo, 1988). Empowerment is a continuous variable in the sense that employees or peoples can be seen as less or more empowered rather than empowered or not empowered (Spreitzer, 1995). Researchers prove that employees view and compare themselves as most valuable and effective employee regarding to their work and are assessed as more effective by their co-workers. (Quinn&Spreitzer, 1999). It is very clear and has shown that organizational effectiveness increases with the power of empowerment and employees well being based on numerous articles.   Researchers recognized four components of empowerment: meaning, competence, self determination and impact.

Meaning talk about to the fit between one's values and beliefs and his doing (Thomas &Velthouse, 1990;). Meaning covers the work goal value which is evaluated in relation to individual's own thinking and standards. In another research conducted by Spreitzer and Quinn (1997), argued that employee with greater empowerment have a sense

of meaning and they feel their work is very important to them and in this way they try their best to care about

what they are doing. Other researches further added that employees considered to be empowered if they have a

clear picture and understanding in connection with where the organization is going for them to establish a sense of

meaning.

Competence refers to the degree and specialty thought which a person reaches in height of confidence and can

perform task activities skillfully when he/she attempts to perform (Thomas &Velthouse, 1990). The researcher

further assumes that competence is related to self-efficacy which relates to people's capability and control over the

daily routine functions and all other related events that affect their lives.

Some other researchers relate the competence as the observation of an individual's capabilities in connection to

decision making, problem solving, self-esteem as well as capabilities to carry out activities with skills. Similarly

other researchers also note that competence enhances the intellectual grooming and sense of person's ability to

perform adequately in extreme and all situations.

Stajkovic and Luthans (1998) assumes that individuals with a higher sense of confidence and greater competence in

jobs should have higher levels of performance as compared to others with less psychologically empowered.

Self determination refers to the extent and latitude of the people through which they endorse their course of action

at the highest level of consideration and also exercise a full sense of choice in their action (Fourie& Van Eeden,

2010).According to Spreitzer (1995), self determination belongs to the sense of individuals regarding autonomy

and control over the work. Similarly, Dansereau (1995 cited in Buitendach&Hlalele, 2005) investigated that self

determination relates to personal control and assessment.

In case of inability of self determination which individuals may not have feltthemselves helpless because they are

not allowed to take work related actions that they consider appropriate for the activity.

Impact dimension of empowerment as an individual's control over job activities and also he/she may have some influence over organizational matters (Spreitzer, 1996). Impact refers to the achievement that an individual feels in achieving the task and also a behavioral difference in terms of completing the purpose of task claimed by (Spreitzer and Quinn 1997). According to Ashforth (1989), impact refers to the degree of influence of an individual in connection to strategic, administrative and operating outcomes of work. In Spreitzer and Quinn (1997) opinion empowered people have the sense of impact. Furthermore, Buitendach and Hlalele (2005) believe that empowered individuals have confidence and self belief that they can have influence over work activity and the others are likely to hear their ideas. Ashforth (1989) supposes that empowerment boosts the confidence of individuals and if the individuals become confident that they can have an impact on the system and can influence over organizational outcomes then they will be seen as effective. According to Conger and Kanungo (1988 cited in Fourie& Van Eeden, 2010), control is one of the core constructs from which the empowerment constructs is derived. An individual has an utmost desire to have personal control and influence over people, events and institutions. In addition to this, Fourie and Van Eeden (2010,p.23) broaden that "when a person has developed the belief that he or she have personal control, there is also the belief that he or she has impact"

H2: Psychological empowerment positively impact on organizational commitment

1.4 Distributive Justice

Organizational justice(OJ) shows the justice and self respected treatment towards the employee. Organizational justice (OJ) is entrenched from the theoretic work of (Homans, 1961 and Walster et al.,(1973). Organizational

justice has three dimensions that bring into being in the literature of the social sciences which includes procedural, distributive. distributive justice and instructional justice (Colquitt et al. 2001)

Procedural justice distinguishes those individuals who often much taking care about the procedures adopted to determine the rewards as well as what those rewards are. They have enough concerns and want to know that procedures are fair. In a research undertaken by Leventhal et al., (1980) investigated six set of laws by which fairness can be enhanced that includes bias suppression, consistency,correctability accuracy, and ethicality. In addition to this, Lind & Tyler, (1988) stated thatfrom time to timepersons may be accepting of bad results for themselves as long as they sense and come to the end result that the concerns of the process was rational and perfect.

Distributive justice is based on Adam's (1965) social exchange theory which focused on personal benefit and gain. As Adams explained in his research that individuals tend to look and very keen in connection to the justice of rewards they receive in terms of ratio. When looking at themselves, they expect rewards be given in accordance with the efforts put into achieving those rewards. When comparing themselves to the others then expect that reward be given to the equal ratios of others (Cropanzano&Folger, 1989). The reward may be economic in the shape of salary raise, periodic bonuses and time off etc or may be social as promise regarding special favour in future (Blau, 1964)

A correlation was found between organizational commitment and distributive justice McFarlin and Sweeney (1992). According to Lowe and Vodanovich (1995),theorganizational commitment can be determined with the help of distributive justice. Many researchers inspected strong and power full relationship between distributive justice and organizational commitment sodistributive justice is used as independent variable in this research

155

(Greenberg, 1990; Lowe &Vodanovich, 1995)

Based on above discussion, another hypothesis is proposed which is given below.

H3: Perceived organizational justice has a significant effect on organizational commitment

THEORETICAL MODEL/FRAMEWORK AND METHODOLY

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┌─────────────────┐
│  Job Autonomy   │─────────────┐
└─────────────────┘             │
                                 ▼
┌─────────────────┐      ┌──────────────────┐
│ Psychological   │─────▶│ Organizational   │
│ Empowerment     │      │ Commitment       │
└─────────────────┘      └──────────────────┘
                                 ▲
┌─────────────────┐             │
│ Distributive    │─────────────┘
│ Justice         │
└─────────────────┘
```
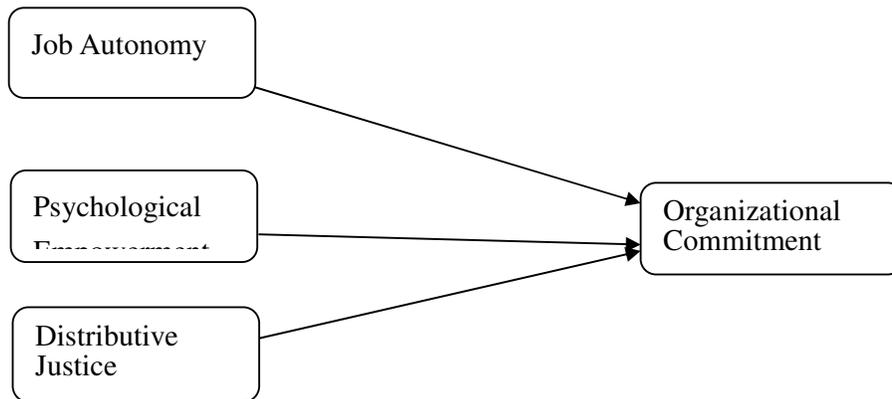
This research is based on quantitative approach of study and survey technique is used for collection of responses from the target population, sample is based on random sampling technique as random sampling techniques considered to bethe best among all possible techniques. The target populations of this study were the full time faculty members working in public sector universities. The respondents were divided into four categories (a) Professor (b) Assistant Professor (c) Lecturer (d) Lecturer Assistant.   The universities sample was a convenience sample from proximity of researchers and willingness to participate. In convenience sampling all employees are given equal opportunity to participate in the study.

A seven-point likert scale instrument for all the variables (strongly disagrees, moderately disagree, slightly disagree, neutral, slightly agree, moderately agree, strongly agree) was used to evaluate employees organizational commitment was constructed by Price (1997). It was an eight itemd tool. Its coefficient alpha value observed 0.714. Breaugh (1985) tool of four itemd was used to measure job autonomy. Its coefficient alpha was 0.707. Psychological empowerment was measured by using twelve items scale developed bySpreitzer (1995). Its coefficient alpha value observed 0.766. Distributive justice was measured with the help of four items tool of Price & Mueller (1986). Its coefficient alpha was observed 0.652. In organizational commitment instrument reverse coded items 2, 6 and 7 are includes and items 3 and 4 are includes in job autonomy and distributive justice measures. These instruments were used due to consistency based on definitions investigated in scholarly research.

The questionnaires were handed over to the respondents with personal visits to different universities. 500 questionnaires were distributed in total whereas 299 filled questionnaires were collected back. The response rate was 60% approximately.

RESULTS, IMPLICATIONS AND CONCLUSION

This study used both descriptive and inferential forms of statistics. In the first instance frequency, descriptive statistics and Pearson's   bivariate relationships between variables were measured and also data was analyzed using multiple regression analysis. The results of descriptive and inferential statistics have been presented as under.

DESCRIPTIVE STATISTICS

Table 01: Personal Information

	Frequency	**%**
Universities		
University of Education, Lahore	35	11.7
GC University, Faisalabad	40	13.4

GC University, Lahore	44	14.7
University of Agriculture, Faisalabad	45	15.1
University of the Punjab	50	16.7
National Textile University, Faisalabad	32	10.7
NFC Institute of Engineering & Fertilizer Research, Faisalabad	23	7.7
University of Engineering & Technology, Lahore	30	10
Employee Position		
Professor	44	14.7
Assistant Professor	72	24.1
Lecturer	152	50.8
Lecturer Assistant	31	10.4
Gender		
Male	194	64.9
Female	105	35.1
Age		
Less than 30	111	37.1
31 to 35	83	27.8
36 to 40	39	13
41 t0 45	36	12
46 to 50	23	7.7
Above 50	7	2.3
Qualification		
Bacholars	26	8.7
Masters	118	39.5
M.Phill	89	29.8
PhD	66	22.1

This detail of table 01 shows that out of total 299 respondents, 35 (11.70%) belonged from University of Education, Lahore, 40 (13.40%) respondents from GC University Faisalabad, 44 (14.70%) respondents from GC University Lahore, 45 (15.10%) from Agricultural University Faisalabad, 50 (16.70%) from Punjab University Lahore, 32 (10.70%) from National Textile University Faisalabad, 23 (7.70%) from NFC Institute of Engineering & Fertilizer Research Faisalabad, and finally 30 (10.0%) from UET Lahore.

Universities have mostly young workforce. 152 (50.8%) respondents are the Lectures, 72 (24.1%) have the position of Assistant Professor, 44 (14.7%) serving as Professor and 31(10.4%) have the position of Lecturer Assistant. 194 (64.9%) male and 105(35.1%) female respondents take part in this study. It also shows that male faculty members are in excess to female faculty members who take part in this study.

This table shows that universities have young workforce, with majority of respondents under 3o years of age 111(37.1%). 83 (27.8%) were between 31 to 35 years of age.

39 (13%) were between 36 to 40 years of age. 36(12%) were between 41 to 45 years of age. 23(7.7%) were between 46 to 50 years of age and 7(2.3%) were above 50 years old. A majority of the workforce (39.5%) have a Master's degree, while (29.8%) have obtained M.phill and (22.1%) have P.hd degrees, whereas (8.7%) have only studied as for as bachelors. The detail also indicates that entire workforce is literate.

Table 02: Correlations

		Job_ Autonomy	Psychological_ Empowerment	Distributive _Justice	Organizational_ Commitment
Job_Autonomy	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	299			
Psychological_Empowerment	Pearson Correlation	.355**	1		
	Sig. (2-tailed)	.000			
	N	299	299		
Distributive_Justice	Pearson Correlation	.354**	.341**	1	
	Sig. (2-tailed)	.000	.000		
	N	299	299	299	
Organizational_Commitment	Pearson Correlation	.388**	.442**	.573**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	299	299	299	299

**. Correlation is significant at the 0.01 level (2-tailed).

Table 02 shows the correlation among all the variables. This table have shown that there is moderate but highly

significant correlation of all independent variables (job autonomy, psychological empowerment, distributive justice)

with dependent variable (organizational commitment). The correlation table also explains that there is highly

significant relationship among all the independent variables.

Table 03: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.644[a]	.415	.409	.67196

a. Predictors: (Constant), Distributive_Justice, Psychological_Empowerment, Job_Autonomy

Table 03 shows the values of the coefficient of determination and adjusted R^2 and describes the standard error of the variable. Job autonomy, psychological empowerment and distributive justice are reflected as predictor variable and organizational commitment as dependent variable. The value for R^2 (coefficient of determination) is .415 which shows the proportion of variance in dependent variable (organizational commitment) by independent variables (job autonomy, psychological empowerment & distributive justice).

It has proven that there is highly significant relationship between the independent and dependent variable. The table of model summary has shown that independent variable cause significant variation in the dependent variable (Organizational Commitment). Value of R square is 0.415 denoting that independent variable causes 41% variation in the dependent variable.

Table 04: ANOVAa

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	94.582	1	31.527	69.823	.000[b]
	Residual	133.202	295	.452		
	Total	227.783	298			

a. Dependent Variable: Organizational_Commitment

b. Predictors: (Constant), Distributive_Justice, Psychological_Empowerment, Job_Autonomy

ANOVA table 04 of the regression result shows that in this analysis one model ie job autonomy, psychological

empowerment & distributive justice (independent variables) and organizational commitment (dependent variable)

is used. The value for F statistics is 69.823 which describes that model is statistically significant. The value for this

regression result is P<0.001

Table 05: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.233	.287		4.297	.000
	Job_Autonomy	.121	.041	.147	2.973	.003
	Psychological_Empowerment	.260	.053	.240	4.888	.000
	Distributive_Justice	.380	.043	.440	8.949	.000

a. Dependent Variable: Organizational_Commitment

Table 05 shows the result for coefficient of the model and also describes t value of the model. According to the

table, coefficient of job autonomy is significant as t value is 2.973 which is statically significant because it is more

than its tabulated value. Similarly, coefficients of psychological empowerment and distributive justice are

significant as t values are 4.888 & 8.949 respectively. Job autonomy, psychological empowerment and distributive

justice collectively have a significant effect on organizational commitment supported by beta values of coefficient

of the variables.

It means that if faculty members of the universities of Pakistan are given autonomy in their work and empowered them psychologically as well as demands of fair treatment and justice given to employees, then it will provide base for enhancement of organizational commitment. So, ANOVA supports to alternative hypothesis and proved that job autonomy, psychological empowerment and distributive justice have collectively significant effect on organizational commitment.

Limitations of the Study

As the research based on primary data and all the data was collected with the help of questionnaires. While random selection from the entire universities was made as well as questionnaire were given to those teachers who agreed to respond voluntarily. Respondents from volunteers may often vary from those that were not chosen as volunteers because people have different perception and ideas about the same thing. Subject of volunteer respondents is considered to be a biased sample of the target population (Gall et al., 1996). They also list out the conclusions and proved that volunteer response may differ and vary from no volunteer response.

These conclusions include

(a) Volunteers were easily motivated to complete the questionnaire,

(b) Volunteers understood the importance and relevance of research and find his moral duty to help out in the data collection process.

 (c) Volunteers considered to be more self disclosing as other as well as willing to relate requisite information in the questionnaire (Gall et al., 1996)

Another limitation is that the survey is a self assessment of the respondents about research question. On the bases

of self assessment, the researcher is not assured that all the respondents interpreted the questions the same or that some respondents did not give what they believe to be politically correct.

Conclusion

All public sector universities included in this study have young and qualified workforce in general. Correlation analysis results of this research showed strong and highly significant correlation between job autonomy and organizational commitment.Similarly, highly significant correlation was also observed between psychological empowerment and organizational commitment as well as between distributive justice and organizational commitment.

Secondly, the regression test was applied to check the cause and effect relationship of all independent and dependent variables. From the results, it was explained 41% variation in organization commitment due to independent variables (job autonomy, psychological empowerment and distributive justice). As the autonomousand satisfied employees found to be loyal to their organizations and prolong positive stance towards their jobs. They don't like to change the exiting organization and feel their current job better than the others one. They also have utmost desire to remain the part of that organization. Management should ensure that employees have been empowered and given autonomy in their assigned jobs and in result it will cause to higher the organization commitment. Similarly, self respected and fair treatment paves the way to higher the organizational commitment which resulting the employees more loyal and put up maximum efforts to achieve the organizational goal. They also accept extra responsibilities with smiling face in response to fair treatment and justice within the organization. There should be unbiased system of fairness and justice in the organizations. Employees should also be briefed periodically in connection to existing justice procedures and its implementation techniques. It would result to

higher the organizational commitment.

So, it is concluded from all findings and discussion that all independent variables (job autonomy, psychological empowerment and distributive justice)have individually and collectively positive and significant effect on organizational commitment (H1, H2 and H3 accepted). It is also proving the fact that higher level of job autonomy is the predictor to higher the organizational commitment of the university employees. Similarly, psychological empowerment and distributive justice are also a good and positive predictor to higher the organizational commitment of university employees. Organizational commitment of university employees increases as and when job autonomy, psychological empowerment and distributive justice increases.

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IMPACT OF WORKING CAPITAL MANAGEMENT ON PROFITABILITY OF TEXTILE SECTOR OF PAKISTAN

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Abstract:

Working Capital Management has its effect on Profitability of the firm. In this research, We have Selected a sample of 138 Pakistani firms listed on Karachi Stock exchange for a Period of 8 years from 1999-2007, We have studied the effect of different variables of working capital management including the Average collection Period, Inventory turnover in days, Average payment period, Cash conversion cycle and Current ratio on the Net operating profitability of Pakistani firms. Debt ratio, size of the firm measured in terms of natural logarithm of sales. The study has looked in to causation process between working capital management and profitability by using Regression Analysis Model Techniques.

The working reveal that the regression coefficient of firm size, days inventory, days payables, days receivables and cash cycle are found to be statistically insignificant at 5% level using the regression.

It can be inferred that the textile industry has still the insignificance of this relationship and may be attributed to chance. There is a very weak relationship between working capital management and profitability of the textile sectors of Pakistan. It is concluded, there is little statistical reason to believe that there is a strong relation between working capital management and profitability of textile firms in Pakistan. However the components of working capital management affect returns of textile firms and it can be inferred that Gross working capital management is significantly affecting profitability in the textile sector of Pakistan.

Key Terms Used: CCC, DI, DR, DP, ROA, Working Capital Management, Regression Analysis

1.   Introduction:

Corporate finance is an area of immense importance for the business organizations. The decisions taken by the financial managers significantly affect overall profitability of the organization besides the interest of the vide variety of the stakeholders. They adopt risk minimization strategy and accordingly undertake a series of well organized measure. These measures ensure day to day operational smoothness which not only help avoiding insolvency but also enhance prospects of profitability of the organization. A major share of their time is spent in managing working capital because of its links to profitability. It turns out that efficient working capital management is a function of credit policy and cost efficient supply of raw material and input. Frequently managers encounter trade- off situation in their endeavor. For instance, improving efficiency of accounts receivables could generate bad debts whereas allowing for discount may improve the collection of receivables but fast collection of receivables could also result in some lost sales due to a strict credit policy. Therefore, a sound working capital management policy is usually structured on consideration of their realities.

2.   Literature Review:

The literature on efficient management of working capital and its links to profitability of the business organization has significantly grown in recent years. Surprisingly, most of the writers have identified almost similar determinants fore the management of working capital. Similarly more studies have found positive links between working capital management and profitability. In the fallowing an effort is made to review only recent studies on the subject. There are differing views of writers on the subject and there are numerous studies that explore the relationship between profitability and working capital management.

Working capital management the effect of market valuation in case of Malaysia (Nor edi Azhar bitni Mohammad. They used ratio analysis as a tool for regression analysis; further describe that significant relationship between the performance of working capital management.

Working capital management and corporate performance another case of Malaysia (M.A Zariwati, H Taufiq) descriptive statistics , correlation analysis , regression analysis used for their dependent variables operating income , independent variable cash conversion cycles. Result showed that cash conversion cycle is significantly negatively associated to the firm profitability.

 Is it better to be aggressive or conservative in managing working capital (Talat Afza, Mian sajid nazir) Variables used for this purpose is aggressive investment policy i.e. total current assets / assets. Aggressive financing policy i.e. totals current liabilities / total assets. Methodology used for this purpose is Tobin Q model. ROA and ROE. The result showed that there is a negative relation between the degree of responsiveness and working capital management.

Working capital management and corporate performance of manufacturing sector in Pakis tan Abdul Rehman, Talat Afza etc. Variables used for the analysis i.e. Net operating Profitability, Average collection period, Inventory turnover in days, Average payment period, cash conversion cycle, net trading cycles, gross working capital turnover ratio. Further the impact of working capital on manufacturing sector is tested by using panel data methodology. The results showed that overall manufacturing sector, working capital has significant impact on the profitability of the firm.

Trends in working capital and its impact on firms' performance: An Analysis of Mauritian small manufacturing firms (Kesseven Padachi) Variables used for the analysis i.e. Return on assets is dependent variable, explanatory variables cash conversion cycle. Control variables includes natural log of sales, gearing ratio, gross working capital

turnover ratio, ratio of current assets to total assets. The primary aim of this paper is to investigate the impact of working capital management on corporate profitability of small manufacturing firms. The study has shown that the paper has been able to achieve high scores on the various components of working capital.

Working capital and profitability an empirical analysis (Pc narware) Variables are working capital ratio, Acid test ratio, current assets to total asset ratio, current assets to total assets ratio, current assets to sales ratio, working capital turnover ratio, Inventory turnover ratio, debtors turnover ratio. Methodology used in this paper multiple regression analysis, SPSS used for ratios analysis. The result showed that both positive and negative situation.

The Relationship between working capital management and profitability: A Vietnam case Hyunch Phuong Dong, Jhy Tay su. Variables used for this analysis Gross operating profitability, Number of days account receivables, Number of day's inventory, Number of days account receivables, cash conversion cycle. Methodology used for this analysis Primary data sources of Vietnam stock exchange for a period of 2006 to 2008, 130 firms used for analysis. The result showed that negative relation between accounts receivables and days inventory.

Working capital and profitability In case of Pakistani firms: (March 2007, Abdur Rehman and Mr. Nasir). Variables used for this analysis Net operating profitability, average collection period, Inventory turnover in days, average payment period, cash conversion cycle, current ratio, log of sales. Methodology used in this article is Panel data regression analysis, Cross sectional and time series data. The result showed that significant impact on profitability of the firm, average collection period, inventory turnover in days and Negative relation between account payable and profitability.

Relationship between working capital management and profitability: (2000, Lyroudi K. and Laziridis J). Variables used for this analysis is cash conversion cycle, quick ratios. Methodology used in this article is panel data analysis. The result showed that significant relation between cash conversion cycles, liquidity measures of current and quick ratios, No relation with leverage ratios.

The relationship between working capital management and profitability of oil and gas sector of Pakistan: (2006 Shah A.M.S and Sana). Variables used for this analysis Cash conversion cycle, day's accounts receivables, day's inventory. Methodology used for this analysis Poll data analysis, and regression model. The result showed Positive relation between gross profit and number of day's accounts payables. Positive relation between working capital management and profitability.

The Relationship between working capital management and profitability: (India 2007, Anand M & Malhotra). Variables used for this analysis is Cash conversion cycle, days accounts receivables, days inventory. Methodology used in this article Multiple regression analysis. Results showed that positive relation between working capital and firm profitability.

Deelof M. (2003) suggest on the basis of 1009 non financials Belgian firms over the period of 1992-1996 that managers can create value for their shareholders by reducing number of days accounts receivables and inventories to reasonable minimum. According to the findings by Deelof there is a negative relation between gross operating income and the measure of working capital management i.e. number of days accounts receivables, inventories, accounts payables, and cash conversion cycle. The analysis of the study reveal that there is a negative relation between accounts payable and profitability, and this is consistent with a view that less profitable firms wait longer to pay their bills. They study also informs that the coefficient of the accounts receivables is negative and highly significant. Deelof found a negative significant relation between gross operating income and number of day's inventory where as a significant negative relation between gross operating income and number of days accounts payables.

Khan, S. U, (2006) conducted a study of 30 listed Pakistani firms. The study investigated the relationship between working capital management and the corporate profitability of the firms. The study analyzed the effect of working capital on the profitability of the firms: results showed a significant negative relationship between firm's gross

profit and the number of day's inventories, accounts payable and cash conversion cycle.

Laziridis. I & Tryfondis.D (2006) in their work have investigated the relationship between corporate profitability and working capital management by analyzing experience of 131 companies listed on the Athens Stock exchange during 2001 to 2004. They have found that if the cash conversion cycle is correctly handled and if the different components like accounts receivables, accounts payables, inventory are kept to an optimum level, then profitability increases which increases value   of the organization.

Gracia- Teruel J.P & Martinez- solan P. (2007)   have used 8872 small and medium size Spanish   firms for the period of 1996 to 2002 for investigation of a relationship between working capital management and profitability. Their investigation reveals that by reducing their firm's number of day's accounts receivables and inventories and by shortening the cash conversion cycle firm's profitability could be improved. Their finding indicate that in the most profitable firms there are shorter number of days accounts receivables, days of inventory and accounts payables as well as a shorter conversion cycle. The previous studies focus on large firms (Shin and Soenen 1998), however their study based on small and medium enterprises could not confirm the number of days accounts payables affecting its return on assets.

Summing up it can be maintained that the topic is well researched around the world and with numerous findings. Some authors have concluded a significant positive relationship between profitability and working capital management while others have not found such a relationship. At country level studies conducted in Malaysia, Belgium, Mauritius, Spain, Pakistan and Athens and Greece sound working capital management is argued to have a positive relationship and profitability.

As far as the researcher on the topic in Pakistan is concerned, this present study is using current data, the findings of which could be generalized to the entire manufacturing sector besides the specific understanding of the textile industry.

3.   Research Objectives:

In the background of above setting the present study explores the relationship between working capital management and profitability in light of experience of the manufacturing sector of Pakistan in general textile industry in particular. It examines the nature of relationship between profitability and working capital management by examining the data of the textile sector.

4.   Methodology:

The study analyses experience of 138 textile firms during the period of 1999-2007 on the basis of secondary data. The sample includes three main types of companies; spinning, weaving and composite, of the textile sector. Since data was not accessible from one individual source, a number of sources were utilized for recording of the variables included in this study. Some prominent secondary sources utilized for recording of financial data includes state bank of Pakistan(SBP), Karachi stock exchange(KSE), All Pakistan textile mills associations(APTMA), Securities and exchange commission of Pakistan(SECP), Ministry of textiles, Federal bureau of statistics(FBS)etc. Some financial figures were recorded from the annual reports of the companies downloaded from the websites of the companies and from business recorders.

4.1   Estimation of Regression Models (Variables):

According to Padachi (2006) the fallowing general regression functions was proposed.

ROA= F (INS, GR, GWCTR, Ct1, Ct2, EXWC)

ROA i.e return on asset is dependent variable

Independent variables are

LnS is the natural log of sales

GR is the gearing ratio

GWCTR is gross working capital turnover ratio

Ct1 denotes the current asset divided by total assets

Ct2 denotes the current liabilities divided by total assets

EXWC denotes the explanatory variable which denotes days inventory, days payables, days receivables and cash conversion cycle subsequently in each of the following four regression model devised.

Therefore, in light of analysis the fallowing model is proposed by the author to enhance statistical logic;

ROA= f (INS, GR, GWCR, Ct1, EXWC)

This model could be rewritten for each component of working capital variables as fallows.

ROA= f (INS, GR, GWCTR, Ct1, DI)   (equation 1)

ROA= f (INS, GR, GWCTR, Ct1, DR)   (equation 2)

ROA= f (INS, GR, GWCTR, Ct1, DP)   (equation 3)

ROA= f (INS, GR, GWCTR, Ct1, CCC)   (equation4)

DI denotes day's inventory

DR denotes days Receivables

DP denotes day's payables

CCC denotes Cash conversion cycle (cash conversion cycle= Days Inventory + Days Receivables – Days Payables)

4.1: Table: Measurement of variables and abbreviations

Variables	Measurement	Abbreviation
Return on assets	Net income / Total assets	ROA
Size of the firm using	Natural logarithm of sales	LOS
Gearing ratio	Total financial debt/ total assets	GR

Gross working capital Turnover ratio	Net sales/ current assets	GWCTR
Current assets to total assets	Current assets to total assets ratio	Ct1
Average collection period	Accounts receivables / Net sales * 365	ACP
Inventory turnover in days	Inventory / CGS *365	ITID
Average payment period	Accounts payables/ purchases * 365	APP
Cash conversion cycle	ACP + ITID – APP	CCC

5. Result and Discussions:

5.1 Regression Analysis for WC and Profitability-Model 1

The Size of the firm using LOS, Gearing ratio, Gross working capital Turnover Ratio, Current Assets to total assets, Day's inventory of firms have also been regressed upon Return on assets to investigate whether working capital management does result in any significant change in profitability of the firms. The results are summarized as follows:

Table 5.1

Regression Statistics	5% Confidence Interval
Multiple R	0.15
R Square	0.02
Adjusted R Square	0.02
Standard Error	0.28
Observations	1242

In Table 5.1, the value of multiple R shows a 15% correlation among Return on Assets, The Size of the firm using LOS, Gearing ratio, Gross working capital Turnover Ratio, Current Assets to total assets, Day's inventory of firms. The value of coefficient of determination shows that only 2% variation in Return on Assets is explained by the Size of the firm using LOS, Gearing ratio, Gross working capital Turnover Ratio, Current Assets to total assets, and Day's inventory of firms. Thus, working capital management for the firms is not strongly associated with the profitability of the firms because there are other factors that may significantly influence this association.

182

Table 5.2

ANOVA					
5%	*df*	*SS*	*MS*	*F*	*Significance F*
Regression	5.00	2.14	0.43	5.40	0.00
Residual	1236.00	97.90	0.08		
Total	1241.00	100.04			

In Table 5.2, the values of F are statistically significant at 5% levels of significance. It implies that working capital management by the textile sectors firms do result in any significant change in profitability of firms.

Table 5.3

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	-0.077	0.047	-1.631	0.103
NLS	0.009	0.006	1.506	0.132
GR	-0.027	0.017	-1.552	0.121
GWCTR	0.010	0.002	3.983	0.000
Ct1	0.040	0.034	1.188	0.235
DI	0.000	0.000	1.950	0.051

The values of intercept and coefficient of Day's inventory and other coefficients related to the regression models are shown in Table 5.3 to investigate the individual impact of each variable on profitability of firm. The values of intercept and coefficient of Day's inventory are statistically insignificant at 5% level of significance. It implies that the working capital management of firms is not able to get any incentive in terms of profitability of firms.

Gross working capital turnover ratio is statistically significant with the profitability, while The Size of the firm using LOS, Gearing ratio, Current Assets to total assets, Day's inventory of firms are found to have no association with profitability of firms.

5.2   Regression Analysis for WC and Profitability-Model 2

The Size of the firm using LOS, Gearing ratio, Gross working capital Turnover Ratio, Current Assets to total assets, Day's Receivable of firms have also been regressed upon Return on assets to investigate whether working capital management does result in any significant change in profitability of the firms. The results are summarized as follows:

Table 5.4

Regression Statistics	5% Confidence Interval
Multiple R	0.136
R Square	0.018
Adjusted R Square	0.014
Standard Error	0.282
Observations	1242

In Table 5.4, the value of multiple R shows a 13.6% correlation among Return on Assets, The Size of the firm using LOS, Gearing ratio, Gross working capital Turnover Ratio, Current Assets to total assets, Day's Receivable of firms. The value of coefficient of determination shows that only 1.8% variation in Return on Assets is explained by the The Size of the firm using LOS, Gearing ratio, Gross working capital Turnover Ratio, Current Assets to total assets, Day's Receivable of firms. Thus, working capital management for the firms is not strongly associated with the profitability of the firms because there are other factors that may significantly influence this association.

Table 5.5

ANOVA					
5%	*df*	*SS*	*MS*	*F*	*Significance F*
Regression	5.000	1.837	0.367	4.624	0.000
Residual	1236.000	98.202	0.079		
Total	1241.000	100.039			

In Table 5.5, the values of F are statistically significant at 5% levels of significance. It implies that working capital management by the textile sectors firms do result in any significant change in profitability of firms.

Table 5.6

	Coefficients	Standard Error	t Stat	P-value
Intercept	-0.078	0.048	-1.621	0.105
NLS	0.010	0.006	1.517	0.130
GR	-0.027	0.017	-1.540	0.124
GWCTR	0.009	0.002	3.941	0.000
Ct1	0.041	0.034	1.184	0.236
DR	0.000	0.000	0.130	0.897

The values of intercept and coefficient of Day's Receivable and other coefficients related to the regression models are shown in Table 5.6 to investigate the individual impact of each variable on profitability of firm. The values of intercept and coefficient of Day's Receivable are statistically insignificant at 5% level of significance. It implies that the working capital management of firms, are not able to get any incentive in terms of profitability of firms.

Gross working capital turnover ratio is statistically significant with the profitability, while The Size of the firm using LOS, Gearing ratio, Current Assets to total assets, Day's Receivable of firms are found to have no association with profitability of firms.

5.3 Regression Analysis for WC and Profitability-Model 3

The Size of the firm using LOS, Gearing ratio, Gross working capital Turnover Ratio, Current Assets to total assets, Day's Payable of firms have also been regressed upon Return on assets to investigate whether working capital management does result in any significant change in profitability of the firms. The results are summarized as follows:

Table 5.7

Regression Statistics	5% Confidence Interval
Multiple R	0.135

185

R Square	0.018
Adjusted R Square	0.014
Standard Error	0.282
Observations	1242

In Table 5.7, the value of multiple R shows a 13.5% correlation among Return on Assets, The Size of the firm using LOS, Gearing ratio, Gross working capital Turnover Ratio, Current Assets to total assets, Day's Payable of firms. The value of coefficient of determination shows that only 1.8% variation in Return on Assets is explained by the The Size of the firm using LOS, Gearing ratio, Gross working capital Turnover Ratio, Current Assets to total assets, Day's Payable of firms. Thus, working capital management for the firms is not strongly associated with the profitability of the firms because there are other factors that may significantly influence this association.

Table 5.8

ANOVA					
5%	*df*	*SS*	*MS*	*F*	*Significance F*
Regression	5.000	1.836	0.367	4.622	0.000
Residual	1236.000	98.203	0.079		
Total	1241.000	100.039			

In Table 5.8, the values of F are statistically significant at 5% levels of significance. It implies that working capital management by the textile sectors firms do result in any significant change in profitability of firms.

Table 5.9

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	-0.077	0.048	-1.614	0.107
NLS	0.009	0.006	1.504	0.133
GR	-0.027	0.017	-1.556	0.120
GWCTR	0.009	0.002	3.940	0.000
Ct1	0.041	0.034	1.201	0.230
DP	0.000	0.000	0.058	0.954

The values of intercept and coefficient of Day's Payable and other coefficients related to the regression models are

186

shown in Table 5.9 to investigate the individual impact of each variable on profitability of firm. The values of intercept and coefficient of Day's Payable are statistically insignificant at 5% level of significance. It implies that the working capital management of firms, are not able to get any incentive in terms of profitability of firms.

Gross working capital turnover ratio is statistically significant with the profitability, while The Size of the firm using LOS, Gearing ratio, Current Assets to total assets, Day's Payable of firms are found to have no association with profitability of firms.

5.4 Regression Analysis for WC and Profitability-Model 4

The Size of the firm using LOS, Gearing ratio, Gross working capital Turnover Ratio, Current Assets to total assets, Cash Conversion Cycle of firms have also been regressed upon Return on assets to investigate whether working capital management does result in any significant change in profitability of the firms. The results are summarized as follows:

Table 5.10

Regression Statistics	5% Confidence Interval
Multiple R	0.135
R Square	0.018
Adjusted R Square	0.014
Standard Error	0.282
Observations	1242

In Table 5.10, the value of multiple R shows a 13.5% correlation among Return on Assets, The Size of the firm using LOS, Gearing ratio, Gross working capital Turnover Ratio, Current Assets to total assets, Cash Conversion Cycle of firms. The value of coefficient of determination shows that only 1.8% variation in Return on Assets is explained by the The Size of the firm using LOS, Gearing ratio, Gross working capital Turnover Ratio, Current Assets to total assets, Cash Conversion Cycle of firms. Thus, working capital management for the firms is not strongly associated with the profitability of the firms because there are other factors that may significantly influence this association.

Table 5.11

ANOVA					
5%					
	df	SS	MS	F	Significance F
Regression	5.000	1.836	0.367	4.621	0.000
Residual	1236.000	98.204	0.079		
Total	1241.000	100.039			

In Table 5.11, the values of F are statistically significant at 5% levels of significance. It implies that working capital management by the textile sectors firms do result in any significant change in profitability of firms.

Table 5.12

	Coefficients	Standard Error	t Stat	P-value
Intercept	-0.077	0.048	-1.620	0.106
NLS	0.010	0.006	1.514	0.130
GR	-0.027	0.017	-1.550	0.121
GWCTR	0.009	0.002	3.937	0.000
Ct1	0.041	0.034	1.204	0.229
CCC	0.000	0.000	0.040	0.968

The values of intercept and coefficient of Cash Conversion Cycle and other coefficients related to the regression models are shown in Table 5.12 to investigate the individual impact of each variable on profitability of firm. The values of intercept and coefficient of Cash conversion Cycle are statistically insignificant at 5% level of significance. It implies that the working capital management of firms, are not able to get any incentive in terms of profitability of firms.

Gross working capital turnover ratio is statistically significant with the profitability, while The Size of the firm using LOS, Gearing ratio, Current Assets to total assets, Cash Conversion Cycle of firms are found to have no association with profitability of firms.

6.   Conclusion

Economic activities are deemed vital in contemporary times and different civilizations are striving hard to reap economic benefits by optimum allocation or resources there by achieving economic efficiency. Financial managers around the globe use their immaculate talent to make financing, capital budgeting and working capital decisions in a fashion that adds to the overall output of organization. Investors' interest largely looms around the required rates of returns. Modern business scenario is a paced pitch where a fast growing corporate cultures demands financial managers to adopt strategies aimed at providing economic benefits to its shareholders and towards serving the welfare interest of the wider community. Businesses are shaping the modern economies of the world and the goal of welfare and economic benefits looks far from possible. There is a greater need of using indigenous studies to understand local financial practices and systems.

Earlier studies as was noted in the review of literature have concluded that efficient working capital management is positively linked with profitability. This study has endeavored to find credence to this theory on the basis of 138 textile firms of Pakistan for a period 1999-2007. The study empirically investigates the main variables of working capital management i.e cash conversion cycle, day's receivable, days Inventory and day's Payable. It identifies best performers on the basis of absolute comparison.

Regression analysis fallows and return on asset is taken as dependent upon the main working capital management variables; cash conversion cycle, days inventory, days receivables and days payables using linear regression models.

According to Linear Regression models used to find causation for return on assets by estimating regression coefficients; the models include firm size, gearing ratio, current assets turn over and ratio of current assets to total assets. The working reveal that the regression coefficient of firm size, days inventory, days payables, days receivables and cash cycle are found to be statistically insignificant at 5% level using the regression .

In sum, it can be inferred that the textile industry has still the limitation of insignificance of this relationship and may be attributed to chance. There is a very weak relationship between working capital management and profitability of the textile sectors of Pakistan. It is concluded, there is little statistical reason to believe that there is a strong relation between working capital management and profitability of textile firms in Pakistan. However the components of working capital management affect returns of textile firms and it can be inferred that Gross working capital management is significantly affecting profitability in the textile sector of Pakistan.

In a nutshell the implications derived from the study demand attention and the topic could be researched further to improve the economic performance of textile industry in particular and the economy of Pakistan, in general.

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L'OrealBaby Girl PerfumeMarketing Strategy

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Abstract

L'Oreal Malaysia is preparing to introduce its first perfume for Malaysia local market. In view of this occasion, Malaysia local market has decided to introduce L'Oreal BabyGirl. It is a perfume designed for the young, active Malaysian teenage girls with the target aged between 13 years old to 19 years old; from a middle-class family group with an average annual combined household income of RM75k (estimated). The main reason for this decision was based on the market potential offerings. Firstly, the Malaysian population in 2008 was at 28 million **(LPPK- National Population and Family Development).** This figure consists of Malaysian men and women aged from birth to beyond 64 years old. Our main target group that is young girls aged between 13 years old to 19 years old is estimated to be at 2 million (14.7%) from the total of 13,614,405 million(LPPK). This represents a good ground for L'Oreal to build the market share and become a leaderin this market. Secondly, this also gives L'Oreal the prospect to develop future potential customers from this age group by converting L'Oreal Baby Girl customers to be devoted to the L'Oreal brand. Thus, it will help to ensure L'Oreal to secure future sales for other major brands under L'Oreal such as Kérastase, Matrix, Redken, Lancôme, Biotherm, Kiehl's, Shu Uemura and others. Thirdly today's teens exhibit a strong need for individuality in their self-expression. The cuteness symbol for L'Oreal Baby Girl will eventually cultivate the feminine nature for teenage girls to help them feel cleaner, fresher and better groomed. Fourthly, in view of the current world economic situation, the market for higher price perfume will be affected where consumers tend to be more observant in their spending. For that reason it encourages   to venture into the market group as it is more prices sensitive. Another interesting fact is the target group that never represent a set individuals with high purchasing power. Consequently, it is pertinent the marketing mix to the main target market as to achieve the same results. The strategy is to position L'Oreal Baby Girl to be a part of household items that are commonly and frequently purchased at retail outlets and pharmacies. These would include items, for example personal and body care products such as hair shampoos, body wash, body talcum, toothpaste and others alike. These products have the following characteristics of being fast moving, high selling, daily used and have a very low shelf-life. This characteristic is important as not only it helps to boost sales for L'Oreal Baby Girl; but it also increases profits from the high volume sales.

1.0 Introduction

1.1 Description of the firm

L'OrealGroup was founded in the year 1909 by Eugene Scheuller which has grown-up with double digit profit and civilizing its capability as a leader in the cosmetics industry. They operated their first business in hair care product and slowly develop the line. So far, they cover all aspects of beauty care in their business line as a cosmetics industry which is skin care, hair colour, hair care, make-up and fragrances. The development of the industry makes the firm own 25 global brands in different segments across 130 countries such as L'Oreal Paris, Garnier, SoftSheen, Carson , Maybelline New York, Vichy Laboratories, La Roche-Posay, L'Oréal Professional, Kérastase, Matrix, Redken, Lancôme, Biotherm, Kiehl's, Shu Uemura, Helena Rubinstein as well as Cacharel, Giorgio Armani and Ralph Lauren perfumes as a L'Oreal's international products which can found in all distribution channels such as hair salons of hypermarkets, health and beauty outlets and pharmacies.The remuneration of products or brands that made by the L'Oreal Group are considerable as an investment in research thus formulas as a particularlypersonalized the needs of women and men in the worldwide. In the year 2007 L'Oreal Group was marketed their products around 17 billion euros of sales because L'Oreal trust that every womanaspires to the beauty. L'Oreal's vision is to help a man and a womanaround the world to realize their individual personalities which are innovating and offers the best price for the largest number of consumers to get most effective products. L'Oreal staywith values such as striving for excellence, a passion for adventure, enrichment through diversity, valuing individual talent and leading innovation in beauty.

L'Oreal Group, headquartered in Paris, France was owned L'Oreal Malaysia which is based in Petaling Jaya and employs over 500 employees. They have a very well-built track record of sales growth posting, which is increasing the double digit in the previous year. Therefore, L'Oreal Malaysia also structured four operational divisions which are Consumer Products Division, Luxury Products Division, Professional Products Division and Active Cosmetics Division. The beauty of Malaysians internationally L'Oreal Malaysia was appointed by Dato' Michelle Yeohas the ambassador to represent the brands. For the new brands of Malaysia, Maya Karin was appointed as an ambassador from a local front to advertise the brands, especially in the cosmetics industry's as a largest investor because of the hi-tech industrial approach which have guarantees innovative and high-value added products.

1.2 Firm's Strengths and Weaknesses

1.2.1 Strengths

L'Oreal's strength according to the continuous research is an innovation which is categories as a primary strength because according to the majority voice of men and women around the world. The dedicated attitude in continuous research makes them become a leader at the same time develop and growing the cosmetics industry althoughin the market competitions.

Secondly, L'Oreal also has prioritized in the dermatological and pharmaceutical fields, even they develop their activities in cosmetic field. L'Oreal cosmetics activities also divided into five groups which is a Consumer Product Division, Luxury Products Division, department stores, duty-free shops and Professional Products Division which distribute their products in other beauty outlets. Parenthetically, Galderma also linked to the L'Oreal Group's of dermatological an activity which contributes to the innovation of the L'Oreal Group's products. However, the Sanofi-Aventis company also categories as a famous pharmaceutical company in order to handle the pharmaceutical activities of L'Oreal. L'Oreal'scompany development and growth highly because of heavy investment that they adapted to the culture of the target market.

1.2.2   Weaknesses

The problem that faced by the L'Oreal is to decentralized organizational structure which categories as a weakness because the L'Oreal has many subdivisions which has difficulty to control so the Board members and directors need to slow down the production of the company to make sure they can avoid the failure and loss. By the way, they also faced difficulty to find out the division, which is accountable for the possible pitfall. Secondly, L'Oreal also faced the weakest in terms of profit, which is a profit margin of L'Oreal is lower than other smaller rivals. While L'Oreal projects certain rise in the digits as their profit, the result does not usually meet the expectations **(Sang, 2003).**Finally, the weakness of L'Oreal's firm also concerns as a coordination, control of the activities and image in the worldwide market because in term of marketing strategy they have dissimilarities especially in the campaign of L'Oreal products in order to analysis what are the image that they going to project.

1.3 Competitors Strengths and Weaknesses – Market Analysis

Among L'Oreal Malaysia's competitors' areColgate-Palmolive (M) Sdn. Bhd, Unilever (M) Holdings Sdn. Bhd, Unza, Procter & Gamble, Johnson & Johnson, Avon Cosmetics (M) Sdn. Bhd, Estee Lauder, Gillette (M) Sdn. Bhd, Amway, Kao (Malaysia) and Shiseido Co Ltd. The Malaysian cosmetics and toiletries manufacturers in general produce fragrance product by mixing and formulation processes, using imported ingredients (MITI). Most of them are contract manufacturers of household products such as shampoo and conditioners, other hair care products, perfumes, and cosmetics. There are only 50 small and medium sized local of companies was producing the cosmetics (SMIDEC) which is reported by the Federation of Malaysian Manufacturers – Malaysian Cosmetics and Toiletries Industry Group (FMM-MCTIG).

Cosmetic products in Malaysia can be divided into the following categories, namelycolor cosmetics, skincare, perfumes and fragrances, toiletries and hair care. It is estimated that there are more than 60,000 types of cosmetic products in the local market(www.bpfk.gov.my).The local cosmetics and toiletries market is valued at approximately RM3 billion or about US$800 million, with a growth rate of 13% annually. Imported products from Thailand, the United States, France, Singapore and Japan dominate the market in Malaysia (www.malaysiamission.com). The perfume market in Malaysia can be classified into

three group specifically mass market, prestige brands and others. Cosmetics and toiletries are sold from low to medium range price, especially in the mass market such as supermarkets, pharmacies and also through direct selling agents which isAvon, Amway, Cosway, Maybelline, Neutrogena, L'Oreal and Mode Circle. While, prestige brands such as Estee Lauder, Clinique, Chanel, Christian Dior and Shiseido usually sell at major departmental stores. Shopping complexes are individually operated as a Franchise chins such as Body Shop, Red Earth, Origins, 5S, Sasa, and Roche. By the way, these individual outlets usually specialized in the natural based products while beauty centers such as Leonard Drake, Dermatological, Thalgo Cosmetics, Clara International, PT Mustika Ratu, and Bella Skin Care offer niche and also specialized products to the middle and higher income groups. (Cosmetics and Toiletries – Malaysia/ Natila Ahmad)

1.4 Sales Trends

The largely trend for perfume purchases is that it usually makes use of as gifts. The high percentage of the annual perfume sales are made towards the end of the year, especially in the month of November & December. It is reported that one in two women receive perfume as a gift and that 51% of women claimed to have bought perfume as a gift for their partner. (Women's Fragrances, UK Market Intelligence Report, August 2007). Premium brands of perfumes and fragrances are dominating the market mainly because the sales are supported by the stable economic condition. With the country's economy growing stronger, the purchasing power of consumers' begins to increase. The consumers will be more willing to indulge themselves in luxury products. Hence, competitiveness in the perfume industry will increase and niche products are highly sought after.On the other hand, it is believed that this trend will soon come to an end as it is evident that the current global economic environment is experiencing a major crisis. It is to our speculation that the pattern of consumer spending will also be affected. Consumers will be more calculative in their spending and thus the price factor will take precedence over the quality factor as the main consideration that influences purchase. Premium brands are facing the threat of soon be overtaken by mass, generic and low price brands.

2.0 Business Proposition

2.1 Objectives

a. Create demand for personal cares specifically perfume products at a tender age in view of the current global economic situation that create an alternative mass product by a renowned brand.

b. Promote awareness of the L'Orealcore brand and specific teenagers'fragrance "L'OrealBaby Girl" product offerings through targeted channels such that at least 80% of the target demographic is aware of the products and the unique values of the "L'OrealBaby Girl", as measured by market research during a period of one year. (80% is 1,600,000 of total market size, 2,000,000)

c. To achieve the sales growth of 2% in the face of economic recession in the next 12 months

d. To build loyalty to brand products at least 10% of the target demographic becomes repeat buyers, as measured by market research, in a period of one year. (10% is 200,000 of total market size, 2,000,000)

2.2 Target Market

L'Oreal Baby Girl is targeted for the young, active Malaysian teenage girls with the target aged between 13 years old to 19 years old. These girls come from a middle-class family group with an average annual combined household income of RM75k (estimated). This target group represents the actual users of L'Oreal BabyGirl. This market segment has not been penetrated enough up till now as the main segmentation of perfume products in Malaysia. This represents a good ground for L'Oreal to build the market share and become a leaderin this market. By introducing "L'OrealBaby Girl" perfume, we hope to create brand loyalty for both the core brand (L'Oreal) and "L'OrealBaby Girl" among teenage girls from early age itself. This also gives L'Oreal the prospect to develop future potential customers from this age group. Thus, it will help to ensure L'Oreal to secure future sales and generate gains for the company in the long run. As they mature into womanhood, they would turn to L'Oreal range of beauty products such as skincare, hair care and cosmetics in large, as they are exposed to the brand at the early stage. Beauty by definitions includes beauty with good health, self-esteem, and confidence that covers women of all ages. These daysteens exhibit a strong need for individuality in their self-expression. Hence, focus on teenage girls is to cultivate a sense of well being and reduce low self-esteem among the target consumers. L'Oreal Baby Girl is hoped to nurture the feminine nature for teenage girls to help them feel cleaner, fresher and better groomed.Another interesting fact that we are aware of is that our target group doesn't represent a set individuals with high purchasing power. Consequently, it is pertinent that we also focus our marketing mix to the parents as part of our main target market as to achieve the same results.

2.3 Market Segmentation

There are many ways in which markets can be segmented, such as geographic, demographic, psychographic and product consumption behavior. Geographic segmentation allows us to segment a market that is spread over a large geographic area into sub-markets that cover smaller geographic areas. Our main focus area in Malaysia is Peninsular Malaysia as well as Sabah and Sarawak target teenage population in urban areas as most middle and upper class income group resides around. Demographic segmentation includes age, gender, race, ethnicity and marital status. We focus our segment to teenage girls who are aged from 13 to 19 years old with the education level of secondary school (Form 1-5) and college students. This group does not have a fixed income who mainly hails from mid class urban family income and they rely on their parents' income to purchase the products. They are known to be spending family money as well as influence their parents' spending on both large and small household purchases. Malaysia total population is estimated around 28 million as of 2008. Among the population, total teenagers, both girls and boys are estimated around 3.7 millionas of 2008. As we are focusing our product to the teenage girls, it is estimated around 2 million populations of teenage girls as of 2008.In addition to

this, the current world economic situation, the market for higher priced perfume will be affected where consumers tend to be more observant in their spending. For that reason this encourages us to venture into this market group as it is more prices sensitive.

2.4 Market Research Methodology

Our main market research is based on focus groups. Focus group research is a useful tool to be used as to ascertain our target group acceptance to L'Oreal BabyGirl. Agroup of people consisting of 6 to 10 from our target group (Young girls aged between 13 years old to 19 years old; from a middle-class family group with an average annual combined household income of RM75k) are carefully selected by our researchers to ask about their feelings, thoughts, opinion, and attitude towards L'Oreal Baby Girl as a perfume product, it scents offering, design, size, value added features, concept, price, advertisement, idea, or packaging. The similar research will be conducted focusing on the same aspects of the findings but the only difference this time is that it is targeted to a different group; the parents. The group weighs the same importance as it represents the purchasing power for L'Oreal BabyGirl.In terms of marketing, this method of research - focus groups are seen as an important tool for acquiring feedback regarding new products, as well as various topics. In particular, focus groups offer us with a wealth of data and information about the potential market acceptance for L'Oreal BabyGirl. With the availability and invaluable information, we therefore have the means to ensure L'Oreal Baby Girl is ready before it is made available to the public.

2.5 Strategy Statement
2.5.1   Education Strategy

"L'OrealBaby Girl" will need to increase awareness among local consumers regarding the potential for body odor caused by prolonged exposure to the sun and sweat due to activeparticipation in outdoor activities even at the tender age of teens.

2.5.2   Image Strategy

The trend of teenagers these days is to value image as everything, and we all like to smell good.The teens wouldbe trying on a lot of perfumes before theyend up with the one that is reallyapt for them, the one that fits to their character, mood and portrays emotions as well. "L'OrealBaby Girl" would stand out as a perfume specifically for teenage girls as most perfumes in the market are launched to cater for the mass market.

2.5.3   Communication Strategy

"L'OrealBaby Girl" would be using advertising and promotion as our communication strategy which is considered to be crucial for cosmetics and toiletries products, in order to create an awareness of new products and build brand loyalty among consumers. One of the ways is through advertisements in TV and the print media such as newspapers and magazines especially teenage girl's magazines are suitable.

2.5.4   Product Strategy

At the present time, the importance of <u>perfume</u> has become widespread and everyone wears different aromas for different occasions. One <u>perfume</u> is used for work, one during shopping, another for outing and yet another perfume for special occasions. Different fragrances match different occasions that effect in different ways. A light and fresh fragrance can lighten a mood; a deeper, more classic aromascan make us feel sophisticated and elegant while others are simply designed to smell like the outdoors.

3.0   Action Plan
3.1   Product Positioning

Positioningis the process of which marketers try to create an image or identity in the minds of their target market for its <u>product</u> and <u>brand</u>of the organization.We have to come up with a new perfume brand for L'Oreal that is "L'OrealBaby Girl" which is priced at an affordable price for teenage girls.Perfumes are as much a part of the individual's fashion style as the accessories that they wear and are usually associated with the individual's personality. "L'OrealBaby Girl" perfume would not only serve its primary purpose of being a perfume, but it would also be a perfect choice for people to purchase it as gifts due to its nature that dictates a personal and delicate feeling in addition to affordable pricing. L'OrealBaby Girl is associated with cuteness, where it is a kind of <u>attractiveness</u>commonly associated with <u>youth</u> and <u>appearance</u>. Things that make the teenagers seem childlike, like being shy and coy. "L'OrealBaby Girl" is available in4 different scents packaged in a 75ml bottle.

The strategy is to position L'Oreal Baby Girl to be a part of household items that are commonly and frequently purchased at retail outlets and pharmacies. These would include items for example personal and body care products such as hair shampoos, body wash, body talcum, toothpaste and others alike. These products have the following characteristics of being fast moving, high selling, daily used and have a very low shelf-life. This characteristic is important as not only it helps to boost sales for L'Oreal Baby Girl; but it also increases profits from the high volume sales.

3.1.1   Product Description

L'Oreal Baby Girl – Product Life Cycle Stage

All products will be experiencing the parallel Lifecycle as it will undergo the introduction stage at the beginning, followed by Growth stage when the momentum of the product evolution is accelerating. Next, the product will then goon the Maturity stage where it is at its most profitable later where it subsequently falls in the decline stage when the market has become highly saturated. Being a new product, L'Oreal Baby Girl is identified to be in the Introduction Stage of its life cycle. On Introduction Stage, the anxiety and anticipation are rather elevated as the chance of product failure is quite high. L'Oreal Baby Girl success will be highly dependable of the achievement of our proposed marketing mix for the target

group; both daughters and parents. Slow growth in sales volumes is to be expected. Extensive efforts will take place in order to increase customer awareness.The demand for our target group has been created so that they will influence their parents to include L'Oreal Baby Girl in the shopping list when they are out on their weekly household supplies errand. Moreover, our target group has to be prompted to try the product with free samples and testers that are handed out during our marketing events. There is expected to be little or no competition at this stage. Nevertheless, with competitive manufacturers watch for market acceptance and segment growth, future stiff competition can be predicted. Some of these tasks listed earlier are importantly required to be performed in line with our marketing communication strategy. Consequently, this is where the costs are high and starts to build up and coupled with the anticipated low sales volume, first year profits are expected to be negative.

3.1.2   Value Added Features

Initially, perfumes' started off as a luxury product, expensive and aesthetically sophisticated packaging, but today one can choose a perfume that best suits and expresses their personality. As for teenage girls, we believe it is a way of them saying "This is who I am, part of my image today". This is part of our education strategy that hopes to educate our target market to pay attention and care towards personal care of young. Perfumes complete are the lack of every individual and needs to be given priority to choose the scent to wear for each occasion as it becomes part of body smell. Our product suits both the teenagers who are active in outdoor related activities where they tend to sweat out as well as those who, this releases a bad body odor, Perfumes are close to our heart as it is usually considered as the first thing noticed on as the smell makes way to reach others around us and the last thing remembered of us. It is a known fact that body chemistry, temperature and mood can alter the effect of perfumes that we wear. It didn't boost self-esteem but also enable to project a certain image of ourselves in the eyes of others. In order to help consumers select the best perfume that takes the both the breath of consumer and others away, L'Oreal BabyGirl has four different scents to cater for different innate style, mood and personality.L'OrealBaby Girl associates target consumers' specifically the teen girls as wanting to be in one of these categories of sweet and romantic, casual and chic, fresh and youthfulness otherwise feminine and beautiful. Based on these personality traits, 4 different scentsarebased on floral and fruity notes are created, namely Cheer, Sparks, Charme and Newhaven.Each different scent is packaged in different colors to represent the identity of scent.

Cheer (BLUE)

Cheergives a picture of freshness and youthfulness of teenage girls these days. In view of that Cheer is represented using a slogan 'Life is in present tense. Live it today!'being vivacious, full of life, mischievous as well as always living it up, the smell of citrus and fresh dew is blended to give life to a rejuvenating fresh perfume. Not only it brings a natural smell reminiscent of the sea, it also works well for those who love being out and about. It is recommended for casual and day wear.

Sparks (PURPLE)

Sparks depicts sweet and romantic traits of teenage girls. Similarly, Sparks is represented using the slogan 'Instant reaction to attract'. It is based purely on the concentration of lavender that embodies the nature of being pure, tranquil and sensual.

Charme (PINK)

Charmeillustrate feminine and beauty traits that is a strong pursuit of teenage girls maturing into womanhood. Consequently, Charme is represented using the slogan 'The essential essence of you'. Charme incorporates the smell of rose, vanilla and soft musk. It is recommended for special occasions and day wear.

Newhaven (GREEN)

Newhavenportrays casual and chic traits that are a common image of teenage girls. Consequently, Newhavenis represented using the slogan 'Embracing the thrill of   life'.Casual Perfume is classified as a flowery fragrance and features a blend of fruity glow blended with jasmine and roses

3.1.3   Product's strength and weakness

3.1.3.1   Strengths

Since the parent company of "L'OrealBaby Girl" is L'Oreal, which is a well known global cosmetic company, thus, their products are known to be well received and perceived to be of high quality. This is ensured throughstrong continuous research and development (R&D) capability of the organization and the successful management that lead to sustainable profit for the past 20 years. Through R&D, our product is suitable for all skin types, even the most sensitive ones."L'OrealBaby Girl" comes in different range of aroma, based on floral and fruity notes namely lavender, citrus, In addition, "L'Oreal BabyGirl" is available in small and compact size that is convenient to bring along with the consumer everywhere. This is purposely done in order to encourage repeated buying behavioramong customers'. The product is marketed in such a way that it is easily available to the consumers. The unique design of the product is "catchy and chic" to meet with the style and preference of the target market. The packaging design is simple but attractive to the target consumers where it is available in different colors. Concurrently, without forgetting it also reflects status L'Oreal as a premium brand. Finally, "L'Oreal BabyGirl" distinguishes itself from its other competitors by focusing on a niche group of consumers, which is the teenage girls, which have not been ventured by the others. Thus, this creates less price competition among

other perfume manufacturers.

3.1.3.2   Weaknesses

Among the weakness identified is the lack of awareness of*L'Oreal BabyGirl'*s brandname among Malaysian consumers as compared to L'Oreal. Therefore, we concentrate on doing massive promotion and advertising. Another weakness that we see in L'Oreal Baby Girl is that the fragrance doesn't last very long as the consumers would have hope too. Reason being is that it will cost us more if we were to produce long lasting perfume. Given the fact that the market that we are focusing into being very price sensitive using better raw material is not an option.

3.1.3.3 Opportunities

By introducing L'OrealBaby Girl, we are simultaneously promoting L'Oreal's brand name as well by advertising. This would in turn increase brand name awareness inthe Malaysian consumer who viewed L'Oreal just as a cosmetic leader. It is also helping to ensure L'Oreal secure more market share through the penetration into the teenage market which has not been actively promoted through product innovation.Educating teenagers on personal care and grooming will be essential to the product growth.

3.1.3.4 Threat

The current economic situation of Malaysia which is having a result of a recession can cause possible threat to L'OrealBaby Girl product launch. However, with sufficient marketing strategy, we can successfully make a way into a new market. As far as competition is concerned, L'OrealBaby Girl would have to compete with perfumes from private and lavish labels. This gives L'OrealBaby Girl a shortcoming where it has to compete with products that cater for the mass market. Since L'OrealBaby Girl is to be launched in a niche market, hence, the probability of competitors to imitate and venture into the same target group isrelatively high. Therefore, L'Oreal BabyGirlhas found ways on distancing itself from possible new entrants in the market.

3.2   Price

Our main consideration when setting the price objective for Baby Girl is to maximize the market share with the target to be the leader in the perfume market for young girls. We believe in securing high volume of sales that in turn will create the economies of scale of BabyGirl production. With the low cost of production per unit, we aim to achieve higher long term profits.   In introducing Baby Girl into the market, we will put into practice the market-penetration pricing strategy. Price for Baby Girl will be valued at a low range in view of the price sensitivity in the market and also to stimulate market growth. This strategy is also hoped to discourage potential competition.

3.2.1   Pricing Strategy

L'Oreal Baby Girl will be introduced at RM5.00 wholesale and proposed RM7.00 retail price per unit/ per 75 ml. The proposed price is suitable with the objective to create market leadership and attain a high market share. In addition it also fits in market positioning – mid-class families (upper and middle class). This strategy is also believed to facilitate our main objective to transform Baby Girl into a household product focusing on all families in Malaysia especially to the young   girls   target market.The retail price of perfume per bottle of 75ml is RM 7.00 and a wholesale price of perfume per bottle of 75ml is RM 5.00. This is to create market leadership as well as to position market in mid class families specifically upper and middle class.

3.2.2   Incentives (Sales Promotion and Discounts Strategy)

The proposed sales and promotion strategy will take place during the annual mega sales such as Malaysia Mega Sale or Malaysia Savings Sale, festive season such Hari Raya, CNY, Deepavali and Christmas as well as special events such as Valentine's Day, Labor Day and other Public Holidays. The discount structure is proposed to be between 15-20 percent on normal occasion and 25-30 percent during special occasion.

3.3 Place
3.3.1   Sales Area

L'OrealBaby Girl would be placed mainly in urban areas of Peninsular Malaysia as more teenagers in the place have more conscious on their appearance and look. Besides, the market that we are targeting is a girl which is middle class income group onwards. They give priority to the first impression of themselves and fond of indulging themselves in comfy treatments. Moreover, the household income of the population in these areas is high that they can afford to spend on beauty products. The product is also distributed in Sabah and Sarawak as they are moving into modernization and under rapid developments. More teens are aware of taking care of their personality now due to globalization through media channels like MTV.

3.3.2   Distribution

Having a strong product alone does not guarantee a product's success if consumers' are not able to easily and conveniently obtain it. With this in mind we turn to another major marketing decision area which is distribution.It is very important for a product to reach its potential consumers. Therefore, sufficient distribution channels have to be established. The bottom line is our distribution system must be both effective by being able to deliver the product to the right place, in the right amount and in the right condition also efficient by delivering at the right time and for the right cost. We have identified a number of distribution channels in order to successfully market our product.We would place our product in both supermarkets and hypermarkets to enable our target market to reach the products. Therefore,hypermarkets such as Giant, Tesco, Carrefour, Mydin and supermarkets such as 99 Speedy Mart and EconSave are used to reach the mass market.

Nowadays, pharmacy and personal care stores such as the Guardian and Watson are the most popular one-stop center for mass brand. Brands that cater to the mass market are primarily sold at these outlets as this would attract the target market. With the increase of the standard of living of consumers' that leads to higher demand for high quality products, we would also place our products in departmental storessuchas Isetan, Parkson, Jusco and Metrojaya. This would establish our product as a premium brand in accordance with our parent company, L'Oreal's Luxury product division.In the near future, we would like to expand our distribution channel to specialty stores which is an important channel for premium and upper-mass brands**.** These stores cater to consumers with higher purchasing power. The more well-known specialty store players are The Body Shop, Crabtree & Evelyn and SaSa.

3.4   Marketing Communication Strategy
3.4.1   Advertising and Promotion Methods

Advertising the main source attempt of how we communicate our product to general market and specifically reaching our target market successfully within a short period of time efficiently and effectively to get them to purchase our product. We have identified 5 different channels of advertising and promotion namely mass media, competition sponsorships, online advertising, departmental stores promotions and covert advertising.

Mass media

One of the advertising strategies that we propose is advertising through mass media which is mainly through print media. Placement of advertisement in major national newspapers namely The Star, Berita Harian, NSTP, Sin Chew Jit Poh and The Sun. We would be placing the advertisement in the educational section of the newspaper, for example NIE in The Star. This is to send the message across to mainly the parents and simultaneously the teenagers. The main purpose is to create brand awareness among public.   Besides, newspaper advertisement, we would be placing advertisements in the magazines which are especially for teens which is available in the market such as Remaja, Seventeen and Asuh besides the school magazine. This is to ensure the level of awareness among our target market, teenagers, is reached through placing testers in the magazines. The testers would produce the perfume smell when rub in the highlighted area. Another media that we focus is the electronic media which are television whereby taking up sponsorship of a popular teen program. By teaming up with media channels to promote products such as ASTRO airing Hannah Montana or Tom-Tombak, we can reach our potential consumer in a short period of time.

Competition sponsorships

Another platform for advertising would be taking sponsorship on the competition organized at national levels. We have targeted three main competitions for us to sponsor. During the event, we would engage our product ambassador, Sharifah Aryana, to take the opportunity to communicate about our product to the audience who mainly comprises of our target market. Other than that, we would distribute

free samples during the event. Besides, having an opportunity to put up our company's banner and signage that not only covers the audience in the event but as well as during the press conference. Among the competition that we identified would be mainly focusing on the cheerleading competition held annually as well asthe MSSM/MSSD namely hockeyand athletics tournament and national debate competition.

Online advertising

We have also identified online advertising as part of our advertising strategy. Among the websites that we have planned to promote is the popular search engine locally Google Malaysia and Yahoo Malaysia.When a user accesses Google or Yahoo Malaysia, a small size banner would be placed to promote the L'Oréal BabyGirl. The banners would also be placed on popular localteen magazines, websites and peer networking sites like Facebook.This form of online advertising embeds an advertisement into a web page.Through this, we hope to reach the online audience as well.

Malls and departmental promotions

Referring to our distribution channels, one of which that includes departmental stores like Jaya Jusco and Sogo that would have booths to position the beauty and cosmetic products. We would use the opportunity to promote at our specified booth by providing training for the shop assistants and consultants. The in-store ambience would be adapted in such a way to suit the teenage customers' preferences. The customers who walk into the store will be given a test strip in the form of card to test smell the perfume for those who prefer smelling on paper besides having testers for those who prefer to test on the skin.

Covert Advertising

Since we have endorsed a celebrity brand ambassador for our product, we can use covert advertising which is to embed our product or brand in media or entertainment. For example, Sharifah Aryana can use our perfume in her movies.

3.5 Public Relations

Brand Ambassador

L'Oréal has started to appoint actresses or different personalities of different age group that best communicates the vision of the organization. The same applies to L'Oréal Malaysia, where it has appointed Maya Karin as the local Malaysian brand ambassador and Dato' Michelle Yeoh as a Malaysian beauty internationally.These popular influential personalities enable average individuals to relate to their personal lives so that they can aspire to look as good as their idol and thus ensures higher sales volume. In order to reach to the teenage girls, we have chosen Sharifah Aryana Binti Syed Zainal Rashid Al- Yahya

who acted in Yasmin Ahmad's movie "Mukhsin" and "Gogra" who we deem as someone close to the heart of teenage girls currently.As the appointed face ofL'Oréal BabyGirl Sharifah Aryana would have to personify and 'live' the brand more than just being a pretty face. After careful consideration as a brand ambassador can make or break a product, we have collectively agreed in engaging her because she is the very image of the girl next door as well as an iconic figure. Her role would be to communicate our product to consumers' by engaging with the audience during a show for example, answering questions in a press conference and play a vital role in participating in road shows to increase brand awareness. We believe by endorsing a celebrity like SharifahAryana would ensure attention of the target group, increase resale value of L'Oréal Baby Girl and finally add value to our product.

4.0   Financial and Forecast

Total first-year sales revenue for L'Oreal BabyGirl Perfume is projected at RM 2,728,080.00, with an average wholesale price of RM5.00 per unit (75ml). The variable cost per unit of RM2.00 for sales volume of 545,616.

Projected Sales Volume Analysis (12 Months)

1,263	Number of Outlets (Retail [GIANT, TESCO etc.] + Pharmacies)
545,616	Total Sales Volume Per Year [3 carton per outlet per month x 12 months]
RM 2,728,080.00	Total Sales Per Year [Yearly Sales Volume x Wholesale Price]

Our break even analysis indicates that L'Oreal BabyGirl will become profitable after the sales volume exceeds 965,200 units in sales volume projected in the second year. The analysis was done based on the following data:

Break Even Analysis (12 Months)

RM 5.00	Wholesale Unit Price
RM 2.00	Unit Variable Cost Price
RM 2,895,600.00	Fixed Cost [Including Marketing Communication - Advertising, Sponsorship &Baby Girl Ambassador]
RM 3.00	Unit Contribution Margin
965,200	Break Even Point in Sales Volume [Fixed Cost / Unit Contribution Margin]
RM 4,826,000.00	Break Even Point in Sales Revenue [Break Even Volume x Wholesale Price]

We anticipate first year loss up to RM 2,097,920.00.

Projected Operations Profit/Loss Analysis (1st 12 Months)

-RM	Loss for 1st year [1st Year Sales Revenue - Break Even Sales Revenue]

2,097,920.00	

5.0 Evaluation

Contingency Plan-JEZ

As the business risk is high due to new entrants to the target market, there are only two possibilities either the product is a massive success or immense failure. Therefore, to avoid the possibility of major failure, we have planned to conduct a follow up by using various market research tools after 6 months of the product launch. An evaluation of whether the product was a success or failure is conducted after 24 months of our Baby Girl's product launch. If the perfume is well received and deemed as a success, then we would inject more capital in order to introduce more variety of product ranges as we are only concentrating on producing Eau de Perfume range of perfume, we would diversify to Eau de Toilette or Cologne range of fragrances. Besides diversifying to various range types, we would also like to expand our products to different types of sizes in terms of packaging as we are only offering 75ml currently. At the same time, considering to launch perfume for adults. Other than that, we would continue to increase our marketing and promotion activities, one of which includes billboards. In the case of where the product is a failure, we would first conduct a research to identify what went wrong. If it is the lack of awareness among the target customers then we would conduct more aggressive direct marketing by going to the ground. Based on the outcome we would also consult with our R&D department on the smell or aroma, by conducting another focus group to check on the level of awareness and preferences. We would also consider the design and packaging of the perfume to consider the suitability to the image of teenage girls and consistently improve on the aptness of the design of the perfume. In the case of pricing, we would consider to set discounts by providing discount coupons along with testers in the teen magazines. After careful consideration on the pro's and con's of launching a new product line of perfume, we hope to generate profit and expand the product line in terms of perfumes in L'Oreal by launching L'Oreal's Baby Girl perfume.

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Cloud Computing Data Security for Personal Health Record by Using Attribute Based Encryption

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Abstract━━ **Personal health record is an emerging trend in the health field for the exchange and use of personal health information. This record is now a day's stored in the third party storage areas like in the cloud providers. To reduce the storage space needed and for the cost reduction, the cloud service applied. There are lots of security issues related with the storage of sensitive personal health information in the clouds. The privacy and confidentiality of personal health information have challenges when cloud storage and applications used. Here the advanced encryption methods like attribute based encryption and its variations are used. Secure sharing of personal health record is assured in this system.**

Keywords━━**Attribute Based Encryption (ABE),Break Glass Access, Cloud Computing,Cloud Data Security, Personal Health Record (PHR),**

INTRODUCTION

In recent year, Personal Health Record (PHR) has developed as the emerging trend in the health care technology and by which the patients are efficiently able to create, manage and share their personal health information. This PHR is now a day's stored in the clouds for the cost reduction purpose and for the easy sharing and access mechanism.   The main concern about this PHR is that whether the patient is able to control their data or not. It is very essential to have the fine grained access control over the data with the semi-trusted server. But in this the PHR system, the security, privacy and health data confidentiality are making challenges to the users when the PHR stored in the third party storage area like cloud services.

The PHR data should be secured from the external attackers and also it should be protect from the internal attackers such that from the cloud server organization itself.   When the PHR owner upload the PHR data to the cloud server, the owner is losing the physical control over the data and thus the cloud server will obtain the access on the plain text data and it will make lots of security challenges to the PHR privacy and confidentiality. The encryption of data before outsourcing it to the third party is consider as the promising approach towards data security and confidentiality towards the third party storage. The normal public key encryption methods and another traditional encryption schemes are making lots key management problem for the sharing of the personal health record and also all those methods provide very less scalability to the system.

In recent days the attribute based encryption scheme and its different variations are chosen as the main encryption primitive for the personal health records which made the storage, retrieval and sharing of the medical information more secure and efficient. But inattribute based encryption, the on demand user revocation is a challenging problem. So the cipher text policy –attribute based encryption and key-policy based attribute based encryption are also applied for the security of the personal health record. For reducing the key-management overhead and distribution problems, the multi-authority attribute based encryptions scheme is used. For the emergency access purpose, the break glass access attribute are also introduced with the personal health record scheme.

I.   CLOUD COMPUTING AND PERSONAL   HEALTH   RECORDS

Cloud computing is an efficient technique by which the user can access any data from anywhere and anytime through internet. Thus it's providing the new world of computing technology to the world. The personal health records are thus also using this cloud computing technology for the efficient storage and retrieval system. But there is still a comparison is going on with the electronic health record and personal health record.

Electronic health record is the electronic version of the medical record of the care and treatment the patient receives. It is maintained and managed by the health care organizations. But our PHR is the collection of important information that the patient maintain about their health or the health of someone they are caring for. It may be short and simple or very detailed. The traditional PHR was in the form of paper documents, electronic files maintained by their computer, but now the PHR is created by using the tools available in the internet. So which make the facility to use the health information across any distances, and to share with the selective users with special read and write access.

II.   ENCRYPTION TECHNIQUES

At the early stages of the cloud computing and personal health record the traditional encryption techniques were applied to the personal health record and now days the advanced encryption techniques such that attribute based encryption and its different variations are used.

1)   Public key encryption:

The public key encryption method was the most traditional method applied to the PHR for the security of the data. But it made the high key-management problems and also this method was very less scalable. The user revocation or break glass access and other advanced techniques were not possible with these one-to-one encryption techniques.

2)   attribute based encryption:

The attributes can define an object very efficiently just as the identity of an object works. The attribute based encryption provides the security to the database. In this system both the cipher text and secret key will be associated with the attributes. The user who is having a minimum number of attributes only can decrypt the data. So while applying this method the owner doesn't want to know about the entire list of users instead of that they can encrypt the data according to some attributes only. Using ABE, access policies expressed based on the attributes of user data which enable the patient to selectively share the PHR among a set of users by encrypting the file under a set of attributes, and so the owner don't want to know the complete list of users [1].It provides data confidentiality and write access control. But the on-demand user revocation and other techniques were not adaptable with this encryption method.

3)   Cipher text policy attribute based encryption

Ciphertext-attribute based encryption is an attribute based encryption technique which   allow the data owner to encrypt the data based on an access policy, which will be based on the attributes of the user or the data. So, the decryption is possible when the secret key is matching with the access control policy [2].The key-idea of the CP-ABE is: the user secret key is associated with a set of attributes and each cipher text will embed with an access structure. The user can decrypt the message only if the user's attribute satisfied with the access structure of the ciphertext [3].This method have the benefits such that the third party server won't have the access on the plain data,   decryption will be possible only when the secret key matched up with access policy defined on attributes, and every user is needed proper authentication and authorization to access the data. And also it removes the need for knowing the identity of the patient by the patient for providing access grant.

The key challenges regarding this CP-ABE scheme is that the user revocation difficulty. Whenever the owner wants to change the access right of the user, it is not possible to do efficiently with this scheme.

4)   key-policy based encryption:

It is an attribute based encryption in which the data are associated with the attributes, for each of which a public key component is defined. In this method, each user will be assigned to an access structure which will specify which type of ciphertexts the key can decrypt [4]. The secret key is defined to reflect the access structure. So the user will be able to decrypt a cipher text if and only if the data attribute satisfy that user's access structure. The key-policy attribute based encryption and ciphertexts-policy attribute based encryptions are almost working in a similar way, but both have some difference in terms of specifying the access policy for the users. The KP-ABE is useful for providing the fine-grained access control to the data system where it can efficiently specify that which part of data system can be accessed by which user and what are the operations they can execute over there.

5)   Multi-authority attribute based encryption:

The multi-authority attribute based encryption scheme is an advanced attribute based encryption in which it will have many attribute authority for handling the different set of users from various domains [5]. In the PHR system the users will be from different domain like the doctors from health care organizations, the friends and family from personal relations and other users from insurance domain too. So each user will be having different access control mechanism based on the relation with the patient or owner. Thus the MA-ABE scheme will highly reduce the key-management issues and overhead and thus it will provide fine-grained access control to the system.

III.   THE EXISTING SYSTEM

In the existing system the Cipher-Text attribute based encryption (CP-ABE) is used which is a variation of attribute based encryption scheme. The data owner is uploading the data to the cloud server after encrypting the data according to the access control policy [7] defined with the set of attributes.

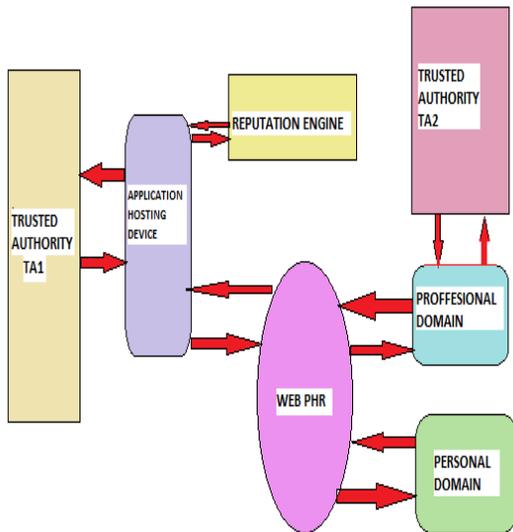Fig.1 the Existing PHR-System

This encrypted data can be decrypted by the user only if the attributes of that user satisfies the access control policy P.

In this system, two trusted authority system is used for the attribute issue purpose, the trusted authority (TA1) for the professional domain and the Trusted Authority (TA2) for the social domain, but the patient can act as this second authority. The

reputation of the user is here used for generating the secret key for the users of the social domain [7].

The working principle and algorithm for the existing system is given as follows:

- At first the key-generation algorithm will run by the both the trusted authority by using CP-ABE scheme.

- The professional domain users will obtain their secret keys according to their attributes defined in the system.

- The patient will create the measurement data by the help of devices and tools and which will send to the application hosting devices like personal computer or mobile phones.

- The hosting device will encrypt this data after the categorization according to an access policy P.

- The encrypted data will send to the web PHR repository.

- When the user wants to see this data, they can download the encrypted data from the server and can decrypt them locally by using the secret key.

- When a request get by the patient for the data access grant permission the patient will make a decision by checking the requester's reputation score generated by the reputation engine.

- The patient will generate the secret key for that requester according to his reputation ranking only.

The CP-ABE scheme consists of four algorithms. The following are the four algorithms [8], [9]:

- **Setup Algorithm (MK, PK)**: This algorithm run by the trusted authority or the security administrator. It will take input a security parameter k, and output a master secret key MK and a master public key PK.

- **Key Generation algorithm (SK)**: It also run by the trusted authority and takes input a set of attributes and MK. It has the output a user secret key SK associated with the attribute set.

- **Encryption algorithm (CT)**: It is run by the encryptor of the system. It has the input a message m, a master public key PK, and an access control policy p, the output of the algorithm is a ciphertext CT, under the access policy P.

- **Decryption algorithm (m)**: It is run by the decryptor. The input for the algorithm is the ciphertexts CT to be decrypted and the user secret key SK. The output of the algorithm is the message m, if and only if the secret key of the user satisfies the access policy P, under which the message was encrypted. It shows an error message if the secret key doesn't satisfy the access policy P, under which the message was encrypted.

In this system in removes the single-trusted authority concept and it introduces multiple-authority concept which assure more security to the system. But there are lots of complexities related with the secret key generation for the users since whenever the patient getting new request the patient wants to check the reputation ranking of that requester and according to that ranking patient wants to generate separate secret key which will reduce the scalability and reliability of the system. The system will also suffers from management of large number of users and their key distribution and management problems.

IV.   THE PROPOSED SYSTEM

The proposed system is providing the fine-grained access control to the system by using the different attribute based encryption schemes. In this system, the users are classified into two security domains called Personal Security Domain and Public Security Domain.

The users like family members, friends are included in the personal domain and the users from the health care organization and insurance field are considering as the data users from the public domain. For both the two different set of user

domain the variations of attribute based encryption is used. For the personal security domain the revocable Key-policy attribute based encryption scheme is used [6]. For the public security domain the Multiple-Authority attribute scheme is proposed. In the PUD the system will define some role-attributes also.
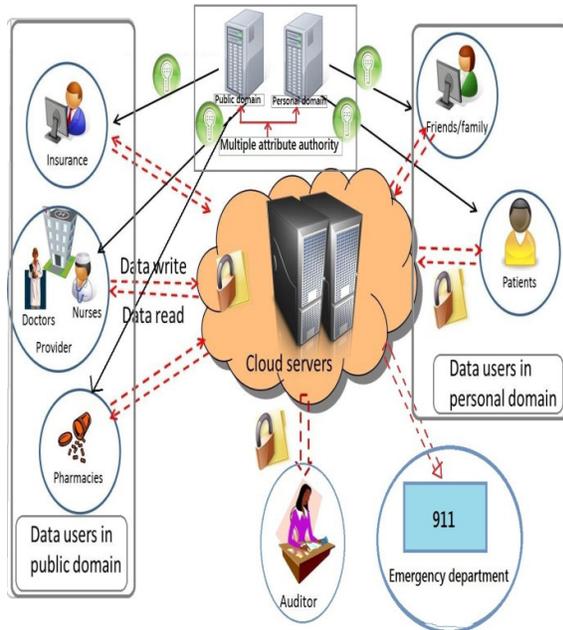
Fig.2 the Proposed System

In this system, the user accesses are controlled in terms of read and write access. The PHR-owner will be providing the different access based on the attribute they defined. The on demand revocation of both the user and attribute are possible through this system. The policy updating is possible by updating the attribute or access policy in the system. The emergency access is provided in the system by defining an emergency attribute in the system which provides break glass access. The write access control is enforced in the system by combining the digital signature techniques with the hash chain techniques.

The system achieves data confidentiality by proving the enhanced MA-ABE scheme. In addition in the security domain, it achieves the forward secrecy and security of write access control. Thus this system have the benefits of fully-patient centric control over the personal health record by the patient it highly reduces the key management overhead and it enhances the privacy guarantee.

V.   CONCLUSION

The personal health records are now consider as the emerging trend in the personal health information exchange field. So cloud computing provides storage and sharing service whic is highly utilized by the users. The data security is the main privacy issue and the attribute based encryptions and its variations are applied for this security purpose. In this paper several variations of attribute based encryptions and its features are discussed. The PHR will use more secure encryption primitives in the future for reducing the

key management problems and complexity and for providing more secure storage and sharing features to the data's stored in the clouds.

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[9] J. Hur and D. K. Noh, "Attribute-based access control with effi-cient revocation in data outsourcing systems," IEEE Transactions on Parallel and Distributed Systems, vol. 99, no. PrePrints, 2010.

THE IMPACT OF RAPID TECHNOLOGICAL DEVELOPMENTS ON INDUSTRY: A CASE STUDY

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ABSTRACT

The application of new technologies has influenced industry development in various ways. This paper examines the extent to which technology affects the very existence of the music industry, within an ever-changingeconomic environment; it explores the areas within the music industry that have been most affected by this new technology, and the views of people involved in it. The purpose of this paper is to present the economic impact, whether positive or negative, on the technological sectors of the music industry, based on literature review and on an empirical study. It presents the overall situation of the music industry and the impact of technological developments on individual sectors of the music industry today throughout the world. Meanwhile, it focuses more specifically on the state of the music industry in Greece and investigates at the implications of the use of technology in areas such as production, distribution, promotion and consumption. Finally, it concludes by making recommendations and suggestions to improve the overall effectiveness of the music industry in Greece, both in terms of financial results and from the consumer's point of view.

1: INTRODUCTION

The music industry's contribution in developed countries is clearly recognized as part of the economy. As a result, over the last twenty years the music industry has been hit hard by an unstable financial climate. Rapid advances in technology have evolved almost every aspect of the industry, from the artist to the label to the publisher. Like other media industries, music has been forced to accept these changes, which has resulted in a much different experience for the industry and the consumer. On the one hand, technology has been used by the music industry as a powerful marketing tool to promote artists and their products. More specifically, today's channel of commercial promotion and distribution of music is the

Internet. Nevertheless, technological developments over the past ten years, and especially the ever-growing phenomenon of file sharing, have created the general impression that the Internet is responsible for a crisis within the industry, on the grounds that music piracy has become more serious than ever.[3]

The purpose of this study is to address more specifically these changes in technology and their effect on the industry itself, on the consumer and on the artist, in order to examine trends and implications of a viable business model in the future of the music industry. The industry has shifted from one in which the supplier groups hold all the power to an industry in which the buyer groups hold the majority of the power.

Using Michael Porter's five forces[4] model, this study will inform us about the competitive structure of the music industry. It is shaped by the interplay of five forces: the threat of new entrants, the threat of substitutes, the bargaining power of buyers, the bargaining power of suppliers and the rivalry among existing competitors. Based on the strength of these forces, the profitability and therefore the attractiveness of an industry can be determined. The stronger the forces are, the more challenging the business environment is. The above model and the use of qualitative data collection through a questionnaire about the case study of Greece aims to help in forming a detailed analysis of the music industry. The questionnaire is an online survey with 50 participants, among whom are consumers, distributors, producers, artists, songwriters, video creators, concert organizers etc. The findings are analyzed according to the literature review concluding with recommendations and limitations of the research. Although the international literature is rich in information about the problem in the music industry today, and although the problem is global, the sources of information for the Greek Music industry are limited to articles only.

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[3]**IFPI**. 2012. Digital Music Report 2012[Online]. Available: http://www.ifpi.org/content/library/DMR2012.pdf [Accessed 04/10/12.

[4]**KOTLER PHILIP, K. K. L.** 2003. Marketing Management New Jersey, Pearson Prentice Hall.

2: THE MUSIC INDUSTRY NOWADAYS

2.1 What the Music industry incorporates

Before analyzing the issue we should make a distinction that is important in this respect: The recording business is not the same as the music industry.[5] The Music industry is difficult to define as it encompasses so many different aspects. While it is commonly held that the volume of CD sales is an important indicator of success in the Music industry, the truth is that the recording industry represents only a small proportion of the Music industry as a whole. Concerts, tours, live entertainment, media and merchandise comprise a large proportion. Apart from this, music publishing and special promotion packages like box sets make up another significant percentage. In fact there are many more elements of the Music industry that most of us aren't even aware of.

It is important, therefore, when considering the current state of the music industry that we do not assume it is all on the decline. Some elements, in particular, tours and concerts; the marketing opportunities they provide still boast impressive profits (see table 1).

2006	$16.6 billion
2007	$18.1 billion
2008	$19.4 billion
2009	$20.8 billion
2010	$22.2 billion
2011	$23.5 billion

Table 1: Worldwide Live Music / Concert Revenues[6]

Artists are able to promote themselves in many other ways than their music alone, whether it be a line of fashion, a new perfume or making the most of celebrity status presenting a TV show.

It can be concluded, therefore, that though the recording industry is ailing, the music industry as a whole remains healthy.

According to David Throsby[7], the term "music industry" can be indentied by the following groups:

5**DAVID KUSEK, LINDSAYG.L.** 2005. The future of music: manifesto for the digital music revolution, Berklee Press.

6**GRABSTATS**. 2011. Worldwide Music Industry Revenues[Online]. eMarketer. Available: http://www.grabstats.com/statmain.aspx?StatID=67 [Accessed 22/10/2012.

- creative artists such as composers, songwriters and musical performers;

- agents, managers, promoters etc. who act on behalf of artists;

- music publishers who publish original works in various forms;

- record companies which make and distribute records (LPs, cassettes, CDs, music videos, DVDs);

- copyright collecting societies which administer the rights of artists, publishers and record companies;

- a variety of other service providers including studio owners, manufacturers, distributors, retailers, broadcasters, venue operators, ticket agents, etc.;

- users of music such as film-makers, multi-media producers, advertisers, etc.; and

- individual consumers, who purchase a musical product or service (buying a record, attending a live performance, subscribing to a "pay" diffusion service) or consume it for free (listening to broadcasts, background music, etc.).

The music industry is comprised of a very widespread and diverse network of businesses which are all connected by the selling of the same product; the music or brand of the artist. The basic participants in the industry coordinate their efforts in order to sell the product to the consumer. The relationship between these businesses is illustrated in the figure 2.

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[7]**THROSBY, D.** 2002. THE MUSIC INDUSTRY IN THE NEW MILLENNIUM: Global and Local Perspectives. Macquarie University, Sydney.
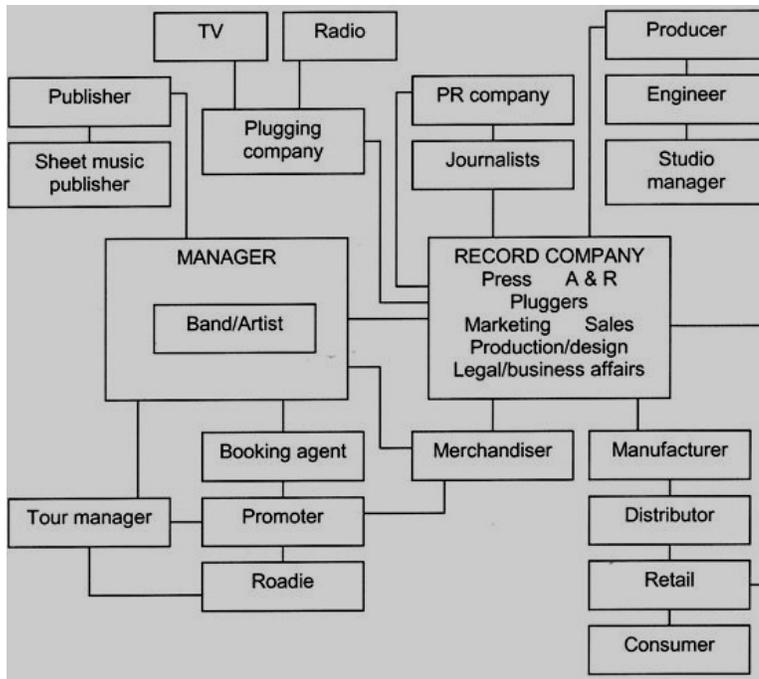
Figure 1: The structure of the music industry[8]
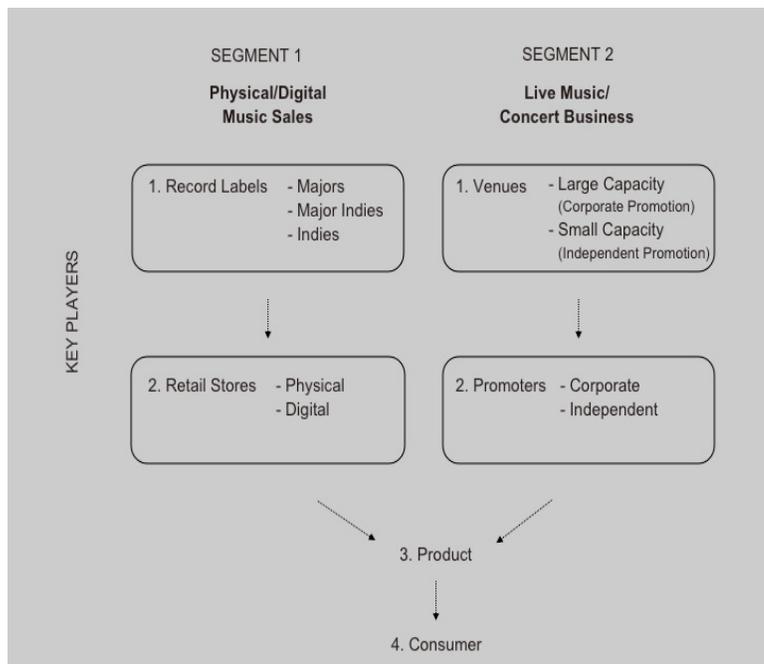
Figure 2: Alternative model, the relationships among the Music Industry's businesses Source[9]

As concerns the structure of the industry, I will start by briefly describing it.The music industry

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8**HOWTO.CO.UK**. 2010. The structure of the music industry[Online]. Available:

http://www.howto.co.uk/careers/working-in-the-music-industry-3rd-edition/ [Accessed 02/11/2012.

[9]**HOWTO.CO.UK**. 2010. The structure of the music industry[Online]. Available:

http://www.howto.co.uk/careers/working-in-the-music-industry-3rd-edition/ [Accessed 02/11/2012.

consists of various factors, and various departments that affect the overall economic structure of the industry. However, the majority of the participants in the music industry still fulfill their traditional roles. There are three types of property that are created and sold by the recording industry: compositions (or artist's output), recordings and media (such as CDs or MP3s). There may be many recordings of a single composition and a single recording will typically be distributed into many media.[10] Using the structure model in figure 2 and analyzing these different departments, we may explain in this paper why this industry is so unique. This diagram describes the companies at the forefront of the music industry. Because there are many other factors in the music business, it is important to simplify the parameters in order to maintain an accurate survey.

2.2 Technological impact on the Industry

In this chapter we will examine the effects of technological achievements on the music industry. Throughout the history of international music, advances in technology have always had a big impact on production, promotion, distribution and consumption. To begin with, a brief historical overview is necessary to explain the working practices and strategies of the music industry.

According to Pekka Gronow[11] the industry can be historically divided into three periods:

The first; before the First World War: the period in which the industry established some of the present working structures worldwide.

The second period begins in the late 1920's, including the boom years until the great depression of 1929 and, years later, the rise of radio and the sound film, which replaced records.

The third period begins from the mid 1950's until the late 1970's. This time it was characterized by a huge increase in record sales, due to industrialized countries. (Gronow, 1998).Today Gronow suggests that recordings have reached saturation point due to the lack of real sales in the developed world.

We can clearly define that each period is characterized by developments in technology which may affect or change the industry completely. For example, during the first period (1877), Edison made the first recording of the human voice. Another historical example for the technological impact onthe music industry in the second period was the growth of live radio at that time, which led to a decline in record sales in the mid 1920's. In the third period, Philips produced its first compact audio cassette in 1963, while in 1976 JVC introduced the VHS format and so on.[12]

10**ANSWERS.COM**. 2012. Music Industry[Online]. Available: http://www.answers.com/topic/music-industry

[Accessed 05/11/2012.

[11]**GRONOW, P.** 1998. An International History of the Recording Industry, London, Cassell.

12**MILLER, J. W.** 2009. The Music Industry in the digital age, INIRA.

2.2.1 Production system

The production system includes the artists who transform ideas into popular culture artifacts, and all the people who develop the artifacts from original form into marketable items. (Burnett, 1996). As I mentioned before, advances in technology have had a dramatic impact on the practices of production where artists and musicians were involved. Since the beginning of the last decade, technological development has changed the locationof production from the commercial recording studio to the computer-based home set-up. The additional advantage of this is also the decrease in the cost of production. For example, production for record companies is a particularly expensive element of the overall process involved in selling records, due in part to the expense of hiring recording studio time, equipment and personnel for prolonged periods of time. Home studio set up made the ability to develop ideas and even produce finished works extremely cheaper using simply software[13] which replace all the equipment that a major record company provide.[14]

2.2.2 Promotion

According to P. Kotler (2000)[15], promotion is one of the four P components of marketing mix. (Figure 3)[16]

Figure 3: The 4P components of marketing mix (Kotler, 2000)

Although the basic philosophy remains the same, technology has changed the means in various ways.

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[13] Software like "pocket guitar", "Tab toolkit", "OmniTuner", "GuitarLab" e.t.c

[14]**NEGUS, K.** 1993. Producing Pop: Culture and Conflict in the Popular Music Industry, London, Edward Arnold.

[15]**KOTLER, P.** 2000. Marketing Management: The Millennium Edition, Prentice-Hall.

Following the technological advances these components of promotion are taking part in direct marketing, using tools such as cell phones, artist websites, pod casting, internet radio and even video games. Formusicians who signed to a record company, promotion is handled by the company's marketing department, who create a visual identity which can be successfully conveyed by the media. This entails producing publicity photographs and promotional videos as well as organizing appearances and publicity campaigns in the press, on the radio and TV, interviews for local and national broadsheet and music press, and through any other available media.

For artists who are not signed to a record company, they can rely on live performances, self-produced promotional material, websites, web radios and press, and word-of-mouth to procure an audience and allow the public to hear their music. They may start performing locally in front of a regional audience, while gradually attaining more geographically widespread performances, thereby increasing their audience. Internet allows independent and unsigned artists to take advantage of traditional methods of promotion such as mailing lists and word of mouth, and adapt them to the more efficient and extensive medium of the Web, as well as creating completely new marketing techniques specific to the Internet. At a basic level, the Internet provides artists with a publishing space that allows them to supply information about themselves and their music to a prospective audience, through a variety of media (sound, image, video, and text) within the same overall context of a Web page. The implications of this are that it is now possible to promote one's music on the Web without the need to rely on live performances as a means of musical transmission from creator to consumer. The listener is therefore freed from the strict geographical and temporal boundaries that a live performance demands, and the producer is able to promote himself in a cost- and time-effective manner on the World Wide Web. These sites act as intermediaries between producers and consumers, essentially fulfilling a similar function to that of a traditional music retail outlet — representing a large repertoire of music from which a large audience may select music they like. Here, it is necessary to illustrate the service that these music sites can offer with a brief description of the services offered by the first and largest independent music site.

2.2.3 Distribution

This is the process of getting music from the producer to the consumer. The term is traditionally used to describe the manufacture of CDs, the shipment to distribution centers and subsequent delivery of those items to the entire network of retail outlets, both domestically and internationally. This is a huge task to co-ordinate, and is fraught with many difficulties such as forecasting sales figures, getting the right number of phonograms to the retail outlet at the right time: if too many CDs are delivered then they become useless stock — if they are not delivered at exactly the right time, then demand cannot be supplied. The scale of expenditure to manufacture and distribute a product to the retail outlets is enormous. This is an area of the music industry where the Internet has the potential to completely change

current practice.

Developments in digital compression formats such as MP3, Microsoft Audio and Real Audio, have enabled files which combine high quality audio with small file size. This facilitates the transmission of such audio files over digital networks, allowing both download and upload of audio files to and from a user's local hard drive. Although this has encouraged many people to experiment with new ways of consuming and sharing music, it contains the kernel of a model for audio distribution which, if harnessed correctly, has the ability to completely alter the way in which record companies disseminate their product. The implication is that if a digital audio file can beelectronically purchased and transmitted over a network, then stored and played back on a compliant consumer electronics device, then distribution could change from a resource-, labour-, and cost-intensive process of manufacture and delivery of physical goods, to a more efficient and cost-effective system of electronic delivery on demand.

This distribution model requires only one electronic copy of a song to be encoded from the master tape, to be stored on a company server and made available for streaming or download, bypassing the need for physical sound carriers (such as CDs and cassettes), as well as the entire costly industrial manufacturing process. It would eliminate the need to forecast sales figures in order to decide how many CDs to manufacture, and subsequently the wasteful over-production of a product which did not meet expected sales figures. If adopted outright, this model of electronic distribution and purchase would also render obsolete the process of transport and delivery from manufacturing plants to warehouses, and subsequently to retail outlets.

This system is potentially extremely efficient and cost-effective in comparison with

the traditional manufacture-distribution-retail chain which claims 70% of CD retail

prices, 21 leaving the remaining 30% to cover all other record company and artist costs, including personnel wages, production and promotion expenses, legal fees, membership of relevant institutions, and any other expenses incurred in the running of a record company.

2.2.4 Consumption

Computers and network technologies have also begun to change the ways that people select and consume music. In the established model of product consumption, the record-buying public select music they like from that which they hear, see or read about in the media complex (radio, TV, magazines etc.). They must then visit a music retail outlet in order to purchase a CD or cassette of that music. However, the media presents only a small percentage of existing new music to the public, the selection of which is largely influenced by a major company's market share and their control over the processes of promotion and distribution, *as* well as over retail outlets. A consumer's purchase decision is therefore directly affected by a record company's economic power and dominance in the media complex. In contrast, the world of online music is currently almost completely lacking in corporate power and

influence, instead being comprised largely of independent producers promoting and disseminating their own music. The means by which a consumer may consume music through the Internet can be roughly divided into four main categories: CD mail order sites, streaming audio sites, audio file download sites, and file sharing applications.

2.3 Technological impact on the consumers

A study from RIAA[17] tried to build the consumer profile, identifying him by demographic criteria like gender and age. Also using psychographic criteria like their ability to adopt/reject technological advances, by the preference of music genre or by music format and the various channels of purchases. These defining factors are not necessarily mutually exclusive and can define a broad spectrum of music consumers.

However, if you were to ask the average consumer how technology has affected their enjoyment of music, they would probably come up with some of the following.

Firstly, compact devices like smart phones, iPods, ipads, tablets and so on mean you can carry your whole music collection with you. Secondly, the immediate access on the music. Music is more accessible and within the click of a button whether it's streaming music, or downloading it illegally for those with computer access.   The internet gave users access to a huge range of information and also are able to preview music before purchasing a song or an album.   In addition, listeners are now able to purchase songs instead of complete album.   Programs like iTunes can provide rare tracks from live recordings or bonus tracks which the consumer never had the opportunity to do before.

Another affection is the live streaming media.[18] The development of streaming audio technology has fuelled a boom in online broadcasting of all types of media content. The ability to stream video has placed the Internet in the arena of digital multimedia entertainment, giving consumers the opportunity to watch programmes, films, video footage, interviews and a vast variety of content from their desktop.

However, the above categories of production, promotion, distribution, consumption are not mutually independent, but complementary to each other. Also, each segment within the industry has its own unique set of needs and responses; the consumers' behavior is demonstrated by each respective market segment, which is affected by the current economic climate.

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[17]**RIAA**. 2008. Consumer Profile[Online]. Available:

http://76.74.24.142/CA052A55-9910-2DAC-925F-27663DCFFFF3.pdf [Accessed 11/11/2012.

[18]**WIKIPEDIA**. 2012. Streaming media[Online]. Available: http://en.wikipedia.org/wiki/Streaming_media [Accessed 25/11/2012.

2.4 Technological impact on the artists

The new technologies offer both opportunities and challenges to artists. Anybody who owns a computer can compose and produce music. For songwriters and musicians especially, it is a much easier way to do it, as is the internet the perfect modern means of distributing this music to the customer. In fact, various artists have set up their own websites, or use social media, in some cases even offering their music for free. This enables the artist to become independent of the contract obligations traditionally laid down by record companies. However, though opportunities to sell yourself may work for some, there still remains a profitable market for those involved in between, whether it be a record label, a commercial agent or an internet music portal to provide a collective channel for artists unable to make a go of it on their own.

The impact of the technology on artists has been significant from the composition and production of music. Thousands of unknown or unsigned artists have access to an independent and an inexpensive global network through which they can publish their music instantly. Secondly, they have the opportunity for an open channel of communication with their potential consumers; the audience. This is a very useful tool for artists that can be used for comments, feedback and somehow a creative motivation for future sales. Artists, especially those which aren't established, can work freely without the commercial influence that a record company might apply. In the record company model, only the more successful artists are able to negotiate the terms of their contract to control the way their music is recorded and disseminated (Negus, Producing Pop, 150). Another positive impact of technology on the artists is that music becomes more profitable due to the reduction of the production cost. It is falling rapidly as advanced software-based recording facilities evolve. For those artists who still rely on CD sales, manufacture and online mail-order distribution may be done independently of the major companies, and therefore more cheaply. For those who use online intermediaries to produce CDs, or for those who use direct digital format sales, the manufacture and distribution process does not involve any investment by the artist, and the artist usually receives a much greater portion of the sale revenue than is provided by the standard record company agreement. Therefore, less investment and reduced costs in the overall production, manufacture and distribution chain indicate that less revenue is required to recoup those costs. This, in conjunction with identifiable niche markets, indicates that through the Internet, music can become a more economically feasible activity through which more artists can exploit a more diverse range of markets than is possible through the record company way.
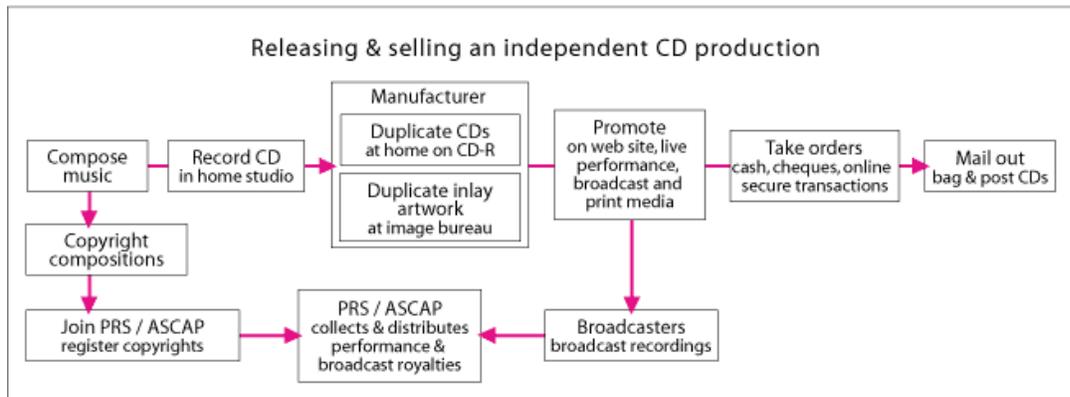
Figure 4: Releasing and selling an independent CD production[19]

On the other hand, the phenomenon of file-sharing programs has caused a lot of skepticism within artists' circles, some of them thinking of it as a threatening form of piracy.

2.5 The Porter's five forces analysis and the music industry

According to Michael Porter, there are five forces which may help to determine the attractiveness of an industry, from a strategic perspective. It analyses the market/industry attractiveness which means the ease with which a player can expect to make profit that needs to be compared with the level of risk involved in transacting in the market.These forces include the threat of new entrants, bargaining power of buyers, bargaining power of suppliers, threat of substitute products or services, and rivalry among participants.[20]

Porter's five forces include:

- threat of substitute products

- the threat of established rivals

- the threat of new entrants

- the bargaining power of suppliers

- the bargaining power of customers

2.5.1 Threat of Substitutes

A substitute product or service can be identified as a rival product or service which meets the same customer needs approximately in the same way as the product or service of the firm (M.Porter 1980).   In

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[19]**DUSTRY, I.** 1999. Structure of the Music Industry[Online]. Available:

http://www.planetoftunes.com/industry/industry_structure.htm [Accessed 12/11/2012.

[20]**PORTER, M. E.** 1986. Competition In Global Industries, Harvard Business Press.

the music industry the substitutes for singles and albums or for paid music purchases in digital form can be identified to be free streaming music online, illegal music downloads online and the specialized TV & Radio channels playing   music. For concerts/festivals/music events can be identified to be other types of entertainment media such as theatrical musicals.

Illegal music downloading from websites which offers music free of charge is the most identifiable substitute for the industry. The thread of this substitute is very high.

 Free streaming music, especially such as those internet radios which allow customers to listen to tracks an unlimited number of times without purchasing them. Although they don't have the choice of downloading it for free and listening on the move, it still can be considered as a substitute as it provides entertainment for the customer.

Furthermore, specialized TV & Radio music channels such as TV set top boxes and monthly subscriptions are another possible option for the customer, though they may be comparatively quite expensive, but with added recording facilities, they could have a better price to performance ratio when compared to a music album.

Music can also be substituted by other channels of entertainment such as movies and games. It may be said that compared to music, movies and games have a larger utility although the prices are set higher than music. Therefore it can be said the threat of other entertainment sources are also posing a mid to low level threat of substituting products of the music industry.

2.5.2 Industry Rivalry

The big four[21] recording studios have been competing for the music industry for decades. (There used to be six, but today just four due to mergers). Although there is fierce competition among these players, their market shares remained stable for years or shrank, as new competition rarely entered the market due to high entry barriers. The industry is flourishing when comparing online and offline sales put

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[21]**ANONYMOUS**. 2012a. The Big 4 - The Biggest Record Labels[Online]. Available:

http://www.world-of-songwriting.com/the-big-4.html [Accessed 28/12/2012.

together, according to RIAA statistics. The product differentiation achievable in the music industry is very low due to all genres represented by artists being the same. The differentiation may be achieved through the formats of music provided such as CD, DVD, Blue-ray and online formats such as MP3, WMV, etc. With digital downloads being more popular than the regular visit to the music store, the music industry has continuously reduced its number of outlets and focused on developing an online strategy. Through that they have been able to reduce high fixed costs, such as outlet rentals and salaries of a high number of outlet staff which has helped with their margins.

In terms of attractiveness, the industry can be said to be highly attractive due to prospects of the music boom which began in the 1990s. With more and more talent coming out through reality shows such as X-factor in several European countries, more and more prospective artists may be introduced to the market.

2.5.3 Threat of new entrants

The next force in determining industry attractiveness is the threat of new entrants which, to a great extent depend upon the barriers to entry. The barriers to entry are created by the following factors;

- Level of expertise required for successful operation
- Access to resources & distribution network
- Industry contacts

As has been mentioned several times, the music industry is a highly specialized sector. Typically, the selection of a talented artist and turning him/her into a success requires a lot of skilful application of marketing, talent management and investment. Established music labels spend millions in undertaking image development campaigns, recording and test marketing before the work of an artist is released to the public. These areas require specialist skills and having access to money. In addition they might need an extensive distribution network, including online partners for online distribution, which is handy in immediate distribution of albums to points of sale. Industry contacts are handy in organizing concerts and shows for promotion of albums and creating a buzz for the artist.

It will be difficult for a new entrant to the music industry to undertake all the above activities and beat the

competitors in a short time. Due to the experience of the industry's giants such as EMI and Sony music and their financial power in the industry, it is very difficult for a new entrant to capture a significant share of the music market. Therefore it can be said that the threat of new entrants is very low as concerns the music industry.

2.5.4 Bargaining power of Suppliers

Porter identified the power of suppliers as the presence of powerful suppliers reduces the potential for high profits in an industry. The bargaining power for a supplier becomes high if:

- There are fewer substitutes for the products or services they are supplying
- The amount which can be supplied is limited, which increases the demand for their products
- There are high switching costs of changing from one supplier to another

Unlike other industries, the main suppliers for the music industry consists of sources through which music labels get access to music. They include the artists and their managers. In addition, due to the rise of the reality shows, producers of shows have also become suppliers for music labels with new talent. The bargaining power of artists is high as it can be said that the voice and ability of each artist is unique and cannot be substituted. Due to the demand for new talent from a wide range of record labels, the options for artists are high which makes signing of new artists for a record label very difficult. This gives a high bargaining power to the artists.

In addition to this, the ability for artists to promote and sell their albums over their own web pages had eradicated the need for most services provided by record labels. In these cases, the record label serves only to provide studios and music support rather than the full services including promotion, distribution and sales. Therefore the internet has increased the bargaining power of suppliers although the success of self-promotion is less.

2.5.5 Bargaining power of Customers

The bargaining power of customers is another aspect which helps in assessing the industry's attractiveness. In this scenario the customers for the music industry can be two fold, both individual and

corporate.Corporate customers in the music industry include online & offline retailers who purchase albums in bulk from the music label. They may include stores and online music stores such as iTunes, AmazonMP3 & Zune. The bargaining power of the corporate customers can be said to be low due to prices being agreed between them and the labels at the time of contract signing.

Individual customers in this industry can be identified as the music listeners who purchase music either online or offline. The bargaining power of individual customers has been rising in recent years due to piracy which has forced the whole music industry to drive down album prices. In addition, with intense competition in the industry, price cutting is evident especially in online music sales. Therefore the bargaining power of customers can be assumed to be very high.

2.6 The Music Industry in Greece

Greece was always a step behind, compared with the rest of Europe, in its adoption of technology infrastructure and advanced information systems. Faster internet, high quality connections from the providers, access to cheap personal computers and software are matters of recent years.

According to IFPI[22]the music industry in Greece suffers from economic problems that plague all the companies involved and lead them to downsizing, which leave capable executives out of a job. Most of these people created their own companies especially in management, selling their knowledge to artists about promotion services. Some record labels, especially independent ones, turn from sales to organizing concerts and live events. ("The need to promote the artists and their work led to the first concerts starting turning the company to the concept of organizing concerts")[23]. The major record labels work almost exclusively with the exploitation of the repertoire and the production of new CDs with established artists or some of the most popular new ones.   The Greek music industry can be examined through each of the following sectors:

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[22] The International Federation of the Phonographic Industry (IFPI) is the organization that represents the interests of the recording industry worldwide.

[23] http://www.didimusic.gr/el/etaireia/

2.6.1 Production

The classic music industry business model involves the mass production (and distribution) of material goods (Hughes & Lang, 2003)[24]. The model refers to the record companies that manufacture industrial product (primarily CDs-optical discs). It is the simplest process in the record business. First, to create a song employed several artists such ascomposer, lyricist, singer, organizer and musicians needed. After is the recording of the song in a studio with proper sound engineer. The final stage is the mass productionof the various products (cutting CD's, LP's etc).

2.6.2 Distribution

From a **distribution** point of view, the movement was to transport discs at retail stores, but in recent years the "fashion" movement has been through the online digital music sales, such as iTunes. For this reason, most recordings in Greece have been left behind. In America almost every album is sold in digital format, whereas in Greece there are only a handful of companies that do something similar and even those do not do that for all artists. The rise of digital music sales occurs for many reasons. First of all comes convenience and immediacy. An individual can buy their favorite music anytime, anywhere and be able to enjoy it via mobile phone, computer, and other means within a few minutes. Secondly is price. The digital movement meant middlemen were no longer involved, therefore making the price of an album much more attractive to the consumer. The Greek record labels found another channel to boost their sales. They offer their products to newspapers. The economic crisis that hit Greece provided an opportunity for many record companies to profit from, they could sell their music as supplements in newspapers. While the newspapers found this a good way of boosting their disheartening sales figures.

2.6.3 Promotion

The product must somehow become known to the consumers. However, the promotion was mainly a job

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[24]**HUGHES, J., & LANG, K. R.** 2003. If I had a song: The culture of digital community networks and its impact on the music industry, International Journal on Media Management

for the major record labels. Today there are a couple of major labels that exclusively work with artists who have released earlier albums, which are already established artists. They undertake promotion services exclusively. However, record labels follow the sales process through newspapers, promoting music products assigned to the newspapers. Additionally the newspapers use the channels in the same space in the media to simultaneously promote their offers.

The services that will keep promotion alive seems to be only those of telecommunications operators who have now telephone services, internet and mobile telephone services and are willing to invest to provide comprehensive services to their subscribers.[25]

Also, the new communication tactics involve artists in the process of promotion. Thanks to new technologies, artists can be in direct contact with radio producers via e-mail, or by sending links with their new songs and asking the opinion of the producers via text messaging on mobile phones, by creating online profiles in the various social networks, such as Facebook. Most of them participate in various online music communities, which are supported either by the national or private telecommunication networks or by independent record companies. Some of these groups have been set up by former record company's executives, journalists from music magazines and newspapers, musicians or simply people who were directly related to technology and have a special interest in music. The online music communities have developed their own communications policies and are now placing greater emphasis on young artists and live concerts. Through their websites they promote new releases and they use the network of web-radios to promote new products or names.[26]

2.6.4 Consumption

A recent survey[27] about Greek consumer attitudes shows that they have been personally affected by

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[25]**COSMOTE**. 2009. Jumping Fish[Online]. Available:

http://www.cosmote.gr/cosmoportal/page/T37/xml/Company_articleadvanced_articleadvancedJumpingFish/section/Mousiki [Accessed 12/12/12.

[26]**GIANNARA, E.** 2010. Music Reloaded. New communication and business models in the music industry. New broadcasting forms – new communication practices. Analyzing the Greek case.
ECREA 3rd European Communication Conference. Hamburg, Germany.
[27] **PAPACHLIMINTZOS, C.** 2011. Survey marks major shift in Greek consumer attitudes. athensnews[Online].

the financial crisis and they plan to spend less than before. Within this environment of pessimism and uncertainty it is quite obvious that the figures in the consumption of music products will decrease in the near future. However, there is a paradoxical phenomenon in Greek consumer behavior. Greek consumers "refuse" to buy the original CD, DVD or any other music product but he are quite willing to pay a lot of money to see a live performance.

To sum up, these four factors in Greece's case may not follow the same patterns as elsewhere in the world. However one thing remains constant. Technology definitely has a direct effect on the music industry wherever it may be.

3: METHODOLOGY

For the successful completion of this study, the research methodology chosen is an empirical project based on research carried out through the distribution of a questionnaire. Mmethodology focuses on an empirical study where qualitative analysis is used in order to find details about behaviours, needs, and desires in the Greek music industry. Also, the qualitative analysis attempts to identify trends by looking for statements that are identical across different research participants. In order to conduct our research, a questionnaire was developed and distributed to a sample of participants that include artists, producers, concert organizers and the average consumer.

3.1 Research

3.1.1 Description of the sample

The questionnaire was distributed to 50 people inpositions as artists, radio and music producers, concert organizers and average consumers within the industrysince the survey is related to the Greek music industry. The sample is composed of 27 females (54%) and 23 males (46%). The age group of the participants, were from 18 to 25 years old - 5 individuals (10%), from 26 to 34 years old - 21 people (42%), from 35 to 44 years old - 22 of them (44%) and from 45 years old and above - 2 people (4%). As for the sample's

Available: http://www.athensnews.gr/issue/13453/45292 [Accessed 05/12/2012].

education 36% are high school graduates, 36% have a Bachelor degree, 10% have a masters degree .People who participated in the survey hold different job positions, from artists to average consumers. Most participants are average consumers as it is important to compare the answers based on terms of production, promotion, distribution and consumption

3.2 Research findings

In this part all of the participants' answers to each of the 15 questions are shown. The findings are firstly collected based on the answers of the total sample. Each question helps to gather interesting information about the overall thoughts of participants about the current situation in the music industry, the technological impact on their habits as producers/organizers/consumers and the future of the music industry as a whole.

In the first question "Do you still buy your music or do you prefer to download?" a 52% of the total participants prefer to download rather than to buy (10%). 38% of the sample population both download and buy the music they wish to listen to (Table 2).

Preferences of the participants

	Number of people	Percent
Both	19	38,0
I download	26	52,0
None	5	10,0
Total	50	100,0

Table 2: Preferences of the participants

In the second question, "How many music festivals/events have you attended this year?" 19of total participants attended more than one festival/event (38%), 10 of them attended more than three (20%), 7 of

them attended more than five festivals/events and only one of them attended in more than 10 (2%). Also, 13 people answer that they did not participate in any music festivals or general music events (26%) (Table 3).

The attendance at music festivals/events

	Number of people	Percent
more than 1	19	38,0
more than 10	1	2,0
more than 3	10	20,0
more than 5	7	14,0
none	13	26,0
Total	50	100,0

Table 3: The attendance at music festivals/events

In the third question "What is a 'fair' price for an album or CD for you?" 25 of the total number of participants (50%) believe that between 8 and 12 euros is a "fair price" for a music album or CD, while 21 of them (42%) believe that between 5 and 7 euros is a "fair price". Only 3 people (6%) have a different opinion and just 1 individual (2%) seems to recognize that more than 13 euros is a "fair price" (Table 4).

The acceptable price for an album/cd

	Frequency	Percent
13+	1	2,0
5-7 euros	21	42,0
8-12 euros	25	50,0
none of the above	3	6,0

Total	50	100,0

Table 4: The acceptable price for an album/cd

In the fourth question, "What is a "fair price" for online track purchases?"the participants were asked what they thought a "fair price" for online track purchases was. Although the answers varied, the majority (20 people, 40%) of the participants believes that one euro per track is an acceptable price for an online purchase while 12 participants(24%) believe that a "fair price" is 99 cents. It is note that the third most popular answer (7 people - 14%) they do not have opinion or they did wish to answer (Table 5).

The acceptable price for a track

Price/track	Number of people	Percent
0.10€/track	1	2,0
0.20€/track	1	2,0
0.50€/track	5	10,0
0.99€/track	12	24,0
1.50€/track	1	2,0
1€/track	20	40,0
2€/track	3	6,0
N/A	7	14,0
Total	50	100,0

Table 5: The acceptable price for a track

In answer to the fifth question, "What is a fair price for online album purchases?" the most popular response (28%) was 5 euros, while a further 26% believed 3 euros was a reasonable price. Interestingly, only 8% thought that more than 10 euros was a fair price, which is actually the going rate for an album. (Table 6).

The acceptable price for an album online

Price	Number of people	Percent
1€/album	1	2,0
10€/album	5	10,0
11€/album	1	2,0
12€/album	1	2,0
13€/album	1	2,0
2.50€/album	1	2,0
2€/album	3	6,0
20€/album	1	2,0
3€/album	13	26,0
5€/album	14	28,0
7€/album	2	4,0
8.99€/album	1	2,0
N/A	6	12,0
Total	50	100,0

Table 6: The acceptable price for an albumonline

The sixth question "How much money per month are you able to spend on online music?" concerns the amount of money people are prepared to part with each month for online music. The vast majority (48 people 96%) could afford to spend 20-30 euros per month and only 2 participants (4%) answer 31-50 euros. No one was able to spend more than 50 euros per month so this possible answer is not shown below (Table 7)

Monthly amount available for online music.

Money/month	Number of people	Percent
20-30	48	96,0
31-50	2	4,0
Total	50	100,0

Table 7: Monthly amount available for online music.

The seventh question, "Can you name any of the major record labels?" investigates the respondents' familiarity with the major record labels. The majority of the respondents appear to be familiar with the major multinational record companies like the "big four". More specifically, 15 participants (30%) are familiar with the SONY MUSIC company, 12 participants (24%) knows EMI and 7 people (14%) are familiar with UNIVERSAL. Twelve participants (24%) preferred to name a different record company. A summary of the results is shown below(Table 8) .

Familiarity with major record labels

Record Label	Frequency	Percent
EMI	12	24,0
SONY MUSIC	15	30,0
POLYGRAM	4	8,0

UNIVERSAL	7	14,0
OTHER	12	24,0
Total	50	100,0

Table 8: Familiarity with major record labels

The eighth question "Which Greek record(s) label(s) do you know?" also investigates the familiarity of participants with the Greek major record labels. The most popular answer was "Heaven", 17 participants (34%), closely followed by "MINOS EMI", 16 participants (32%). Also, 8 participants (16%) answer different name of record label mostly independent ones, while most familiar indie record label was "RUN DEVIL RUN" with 5 participants (10%) (Table 9).

Familiarity with the Greek major record labels

Greek record labels	Frequency	Percent
HEAVEN	17	34,0
MINOS EMI	16	32,0
ANO KATO	4	8,0
RUN DEVIL RUN	5	10,0
OTHER	8	16,0
Total	50	100,0

Table 9: Familiarity with the Greek major record labels

The question nine "What is missing from the music industry?" is the first of five open ones. In order to present the findings, the qualitative responses have been converted into quantitative ones in the tables and figures that follow.

The replies indicate that the lack of innovation from today's music industry is the most important issue (34%) with 17 responds. The second most popular answer was "being realistic" with 9 participants

(18%). Also, 8 people (16%) believe that "better approach to the consumers" is missing from the music industry, while 5 people (10%) believes that "quality" is the issue. Another 5 participants (10%) gave a different reason (Table 10).

What is missing from the music industry

	Frequency	Valid Percent
Being realistic	9	18,0
Innovation	17	34,0
Better approach to the consumers	8	16,0
Feeling	1	2,0
Free music TV	2	4,0
Money to artists	3	6,0
Something else	5	10,0
Quality	5	10,0
Total	50	100,0

Table 10: What is missing from the music industry .

The tenth question"Do you believe that the Greek music industry has invested in the latest technology to be ready for the new Internet environment?"shows that that 42% of the sample disagrees with the suggestion that the Greek music industry has invested in the latest technology and 28% strongly disagree (Table 11).

People's beliefs about technology investments within the Greek music industry

	Number of people	Percent
Stongly disagree	14	28,0
Disagree	21	42,0

Neither Agree nor Disagree	11	22,0
Agree	3	6,0
Strongly Agree	1	2,0
Total	50	100,0

Table 11: People's beliefs about technology investments within the Greek music industry

In question eleventh "How has technology enabled you to enjoy music more?" respondents were asked to describe how technology gave them the opportunity to enjoy music more. Twenty percent (20%) of the participants reply that the freedom to listen to music everywhere was the most effective result of the latest technology. After that came "free access to the music" (18%) and two responses of 16%, one for "expanding music knowledge" and the other "via downloading". (Table 12)

How technology has helped people to enjoy music

	Number of people	Percent
Expand the music knowledge	8	16,0
Free access to the music	9	18,0
Listen music everywhere	10	20,0
Quality sound	5	10,0
Through downloading	8	16,0
Through social media	1	2,0
Something Else	9	18,0
Total	50	100,0

Table 12: How technology has helped people to enjoy music

In question twelve "What do you think the music industry will be like in the near future?" respondents were asked to provide an open-ended comment to express their opinion regarding their predictions about the future of the music industry. The largest proportion (36%) of responses was related to the prediction

that the music industry will operate solely online (Table 13.)

People's thoughts about the future of music industry

	Number of people	Percent
Completely online	18	36,0
Everything will be on digital form	9	18,0
People will using cloud providers	8	16,0
There will be no music industry	12	24,0
Same as today	2	4,0
Everything Else	1	2,0
Total	50	100,0

Table 13: People's thoughts about the future of music industry

In the final question, "How can the sales of digital music products in Greece be increased?", 30% of the sample population or 15 people answered "by better promotion". The second most popular answer was "by changing the distribution policy" (18% or 9 participants) while 16% or 8 participants held that better quality would result in better sales. Seven people or 14% of the participants claim that the sales will recover "by better prices", 6 people or 12% answer "by investing in people" and 10% or 5 people respond "by investing in technology" (Table 14).

Ways of increasing sales of digital music products

	Number of people	Percent
By investing in people	6	12,0
By investing in technology	5	10,0
By better promotion	15	30,0
By changing the distribution policy	9	18,0

By better prices	7	14,0
By better quality	8	16,0
Total	50	100,0

Table 14: Ways of increasing sales of digital music products

4: DATA ANALYSIS

4.1 DISCUSSION

The present study attempts to determine the impact of technology on the music industry. Almost everybody who participated in the survey agreed that interaction between technology and the music industry exists.

The purpose of this research is to explore the relationship between an increased use of technology in the various sectors of the music industry,such as the production, promotion, distribution and consumption and whether the effects are positive or negative.   The first three questions of the surveyaim to obtain some basic information about the sample, i.e. education level, the age group and the position they currently hold inside the music industry. This helps to identify whether the opinions of the participants are related to age, educational level or their professional position within the industry.

The first question of the survey, "Do you still buy your music or do you prefer to download?" investigates the behavior of potential consumers and, more specifically, the tendency to buy or to download legal or illegal music. The majority of the participants in the survey show that they are already in the digital era. These preferences indicate the power of new technologies to disrupt existing business models to adapt or become obsolete. Two major factors have contributed to this: technology and consumer dissatisfaction with the traditional business model (Freedman, 2003)[28].

The second question, "How many music festivals/events have you attended this year?" investigates the other type of   music product which is associated with live music. Although the responses show that people within the industry did go to at least one music concert, there is a proportion of people who did not

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[28]**FREEDMAN, D.** 2003. Managing pirate culture: Corporate responses to peer-to-peer networking, London, International Journal on Media Management.

attend any or only a small number. According to the newspaper "The Guardian,"[29] the live music industry has enjoyed ten years of strong growth and this has supported the revenues from recorded music. Music festivals and arena tours have proved highly profitable. But there are signs that the market has matured and there will be less profit to be earned in a time when the live music industry has exceeded capacity (i.e. too many events chasing too few customers). The reasons may vary but the major reason could be the prioritizing of needs in an environment of economic crisis.

The third question,"What is a 'fair' price for an album or CD for you?", as well as the fourth "What is a "fair price" for online track purchases?" and the fifth "What is a fair price for online album purchases?", investigates what the value of the product or the service is for the buyer. According to the results from the online survey, there is a specific range of price that people are willing to pay for a music product even if it is an album, a CD, a single track or any online purchase relative to music products. The answers were a very good example to define the degree to which consumers' behavior is affected by the price of the product or service. In other words, the consumer demand for a music product is determined by the cost of the product. The music industry fears that technology will increase customer price sensitivity and intensify price competition, especially in terms of piracy. On the other hand, there is a strong relation between production, promotion and distribution with price. As for production, it is known that the important relationship is between the market forces of supply and demand. More specifically, a change inthe price directly affects the quantity of products demanded. Also the quantity supplied at each price depends on a change in input prices, technology, expectations, or the number of sellers.[30]

Concerning promotion, there is a positive correlation between price and promotion. The music industry bears a high cost of promotion and if the music industry cannot afford to reduce the retail cost of a product, the revenues drop. Furthermore, the survey shows that the pricing in the Greek music industry is considerably high.[31] Given that the average price of a CD is nineteen euros, those participating in the

[29]**TOPPING, A.** 2011. Live gigs suffer as audiences stay home. The Guardian.

[30]**MANKIW, N. G.** 2003. Principles of economics, N.Y., Thomson.

[31]**ANONYMOUS.** 2012b. Πανάκριβα τα cd στην Ελλάδα. womenonly[Online]. Available:

http://www.womenonly.gr/loipon/kosmikasummary.asp?catid=13944&subid=2&pubid=764408 [Accessed 15/02/2013].

survey consider a fair price to be around half that.

Regarding distribution, the most important threat that digital technologies pose to the music industry is the pricing and distribution on a single song basis.[32] On the other hand, technology provides new more efficient and cost-effective distribution channels via electronic delivery on demand.

The sixth question of the survey,"How much money per month are you able to spend on online music?" investigates the ability of buyers to spend money on potential purchases. The results show that 96% of respondents could spare 20-30 euros per month for web purchases. According to the values that apply to the internet for music products, the disposal of such an amount is more than optimistic. Perhaps this could be explained by the fact most of the participants were music enthusiasts and therefore more likely to prioritize spending a bit more on music, even though they recognize times are hard. The rise of subscription, a fast-expanding business model, is transforming the way people experience and payfor music products. The number of consumers subscribing to music services globally isestimated to have increased by nearly 65 per cent in 2011, reachingmore than 13 million, compared to an estimated 8.2 million theprevious year.[33]

The seventh question of the survey,"Can you name any of the major record labels?" investigates the familiarity of participants with the major record labels. Despite the crisis currently plaguing the record companies, the participants of the survey named almost all the major ones. That proves that the brand name is still the most valuable intangible asset of record companies. Although they succeeded in maximizing their value through planning, deep long-term commitment, and creatively designed and executed marketing, they failed to command intense consumer loyalty. For branding strategies to be successful and brand value to be created, consumers must be convincedthere are meaningful differences among brands in the product or service category.[34] In the case of the music industry and particularly in

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[32]**HUNTER, R.** 2002. World Without Secrets: Business, Crime, and Privacy in the Age of Ubiquitous Computing N.Y., John Wiley and sons Inc.

[33]**IFPI**. 2012. Digital Music Report 2012[Online]. Available: http://www.ifpi.org/content/library/DMR2012.pdf [Accessed 04/10/12.

[34]**KOTLER P., KELLER L. K.** 2012. Marketing management, New Jersey, Pearson Education, Inc.

Greece's case, the consumers do not give any importance to these meaningful differences between companies even if they know them.

The eighth question of the survey, "Which Greek record(s) label(s) do you know?" is similar to the previous one and focuses on Greek recording labels. The most recognized Greek record labels are "Heaven" and "Minos-EMI". According to the official site of "Heaven Music", it is the record label of Antenna Group, the Greek Group media and entertainment.[35] The strong link between TV music reality programs and the record label of the group create a totally new phenomenon. The creation of new music stars which help the company to gain a share in the domestic market.

On the other hand, "Minos-EMI" is the domestic trade name of EMI Music Greece, a record company in Greece. It is the Greek record label division of the British-based, multinational EMI Group."Minos-EMI" has dominated the Greek music industry since 1930.[36]

The ninth question of the survey,"What is missing from the music industry?" investigates the opinion of the participants regarding what they believe the music industry lacks. According to the responses, the most important issue was a lack of innovation within the industry. When considering innovations in the music industry, it is important to mention a series of trends that have emerged in recent years, namely, the release of iTunes, Social Streaming and Cloud technology. However, in Greece these trends still remain in the early stages of development.

However, it is not the only thing that missing from music industry that note on the online survey. The music industry needs to be more realistic and to have better approach to the consumers. Realizing that potential will require a solution that successfully dealswith music piracy without negating the advantages of the technology.

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[35]**HEAVEN**. 2013. Music made of Heaven - About us[Online]. Available:
http://www.heavenmusic.gr/index.php?option=com_content&view=article&id=16&Itemid=3 [Accessed 10/01/2013.

[36]**WIKIPEDIA**. 2013. Minos EMI[Online]. Available: http://en.wikipedia.org/wiki/Minos_EMI [Accessed 03/01/2013.

The tenth question of the survey,"Do you believe that the Greek music industry has invested in the latest technology to be ready for the new Internet environment?" is linked with question nine. The majority of the participants express their beliefs that the Greek music industry did not invest at all in the latest technology. It was mentioned earlier that Greece is among the countries which have been slow to adopt technology infrastructure and advanced information systems.Despite the delay of Greece to acquire technology and computer equipment, there are many companies which were influenced by the Internet and adapt their business models more to electronic stores. The failure of established record labels to follow the new path by distributing their catalogues online might explain the answers to this question.

The eleventh question of the survey, "How has technology enabled you to enjoy music more?" investigates the ways the participants enjoy their music. The general conclusion here is that people appreciate the portability of music. In other words the ability to listen to their music everywhere, in combination with better sound quality and with free access. It is another proof that consumers are always a step ahead in this digital environment. Moreover, the technology manufacturers are also always ahead by creating demand for digital devices.

The twelfth question of the survey is"What do you think the music industry will be like in the near future?"The most popular answer was that music would be completely online. This of course would mean music stores may become a thing of the past. Indeed, many young music fans of today may never need to venture inside such a store since they can access music directly via the internet. The demise of the music store is already happening with big names like HMV reporting closures[37]. If this trend continues then it seems music stores may become as obsolete as the cassette and music will be sold exclusively online. A significant proportion of participants went as far as to say there will be no music industry. While this may appear rather pessimistic, the attitude is perhaps understandable when we take into account how recent trends are going and how they are likely to shape the music industry in the short term. The current

[37]**ANONYMOUS.** 2013. Report: HMV boss axed amid a further 60 redundancies. Available:

http://www.itv.com/news/story/2013-02-07/66-hmv-stores-set-to-close/ [Accessed 08/02/2013].

unsettled status of the recorded industry looks set to remain so for quite some time. In fact, music in itself is no longer the big money maker, but rather a means of promoting other aspects of the industry like ticket sales and merchandise. Meanwhile, record labels and agents are playing less and less of a role since artists can produce and distribute their product much more independently, thanks to the internet. Another lucrative part of the music market is suffering and the very foundations of the industry appear less stable. Another popular response was that everything will be in digital form, which brings us to the next question.

The thirteenth question of the survey,"How can the sales of digital music products in Greecebe increased?"investigates ways that can solve the sales part of the problem. In an economic environment, which suffers from the effects of the crisis it is more difficult to prioritize needs. The majority of responders thought that it is a matter of better promotion, followed by changes in distribution and finally a combination of pricing and quality. Better promotion should incorporate merchandise and concert tickets and be channeled to the public through a wide range of media. The opportunities that modern technology in entertainment offers us must be exploited to the full to ensure effective distribution. Since the demand for full and easy access to music dictates the future of the industry, those involved must constantly adapt and adopt new ways to reach the consumer. The use of cloud providers and bundling, for example, are becoming ever more popular. Finally, pricing and quality must be regulated carefully to protect the artist and be acceptable and affordable to the consumer, especially taking into consideration current economic austerity.

4.2 LIMITATIONS

The main limitations are the lack of relevant literature for the Greek music industry examining the issues relevant to the present study; the size of the sample and the application of only descriptive statistics through a qualitative methodological approach.

5: CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The purpose of the present study was to investigate the level of influence of technology on the music industry, especially in the case of Greece.

- For production: Music production is no longer tied to recording studios in the traditional sense, but can be produced independently and in a decentralized mannerby the artists themselves.

- For promotion: Music promotion is now reliant on technological advances in terms of direct marketing, using tools such as cell phones, artist websites, pod casting, internet radio and video games.

- For distribution: Music sales no longer occur only through a global distribution system controlled by the major record labels, in close connection with retail shops. Insteadthese sales take place digitally in even greater numbers via online stores. The market for music is shifting ever more rapidly away from physical recordings towards digitalmusic files – and with it away from the sale of the more profitable albums towards the sale of individual songs or rather to the sale of music subscriptions[38].

- For consumption: There is no doubt that the digital era will continue. As digital music consumption continues to increase, artists and consumers will be finding new ways to engage within the music industry. The new generations are almost completely unaware of the concept of the album and just listen to the song they want from YouTube, or from their MP3 player.

The international music industry has not overcome the crisis yet. There is awreness that the profits will never return to the level they were before, but must adapt to the era of iTunes and the iPod and continue to evolve in order to recover.

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[38]**GORDON, S.** 2005. The future of the Music Business, Backbeat Books.

5.2 Recommendations

The general situation in the media and the music industry proves the mistakes of the past but it does not indicate an entirely negative future. In fact, while the international record industry remains in decline, there have been more reassuring reports within Europe, with Norway and Sweden claiming big increases in music revenues."*According to IFPI Sweden, the value of the Swedish recorded music market soared last year by 13.8 per cent, generating 943 million kronor (111 million euros)*".[39] Norway's trade body recorded an impressive 7 per cent rise, the first increase since 2004. This proves that the industry can recover and sets an example to countries like Greece. A more optimistic approach and an emphasis on the importance of adapting to new technology and new trends faster could help restore an ailing industry.

It is hard to predict how advances in technology areexpected to solve the problem, but what issuggested as a more prominent way is the legalization of file sharing. This could offer a general solution on all sides. Technologies that make 'free music' could benefit the consumer, by granting them wider access to more music, without having to worry about any legal restrictions. Similarly, both the artists and labels would be reasonably compensated by the technology companies which provide access to this 'free music'.   In other words, labels would still have an important role in finding, producing and promoting music to attract more subscribers to high speed internet services, and more customers for computers, CD burners, mobile phones and other digital devices[40].

More specifically, in the field of distribution , the relevant players in the Greek music industry come from the international computer industry (Apple), the telecommunications industry (Vodafone, Cosmote), the Television (Mad TV, ANT1) and the international or domestic online retailers (Amazon, e-shop). Their products and services allow them to dominatethe distribution of digital music online. In some cases they even offer hardware specificallyadapted for such purposes. They succeed in doing this by breaking

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[39]**SHERWIN, A.** 2013. Sweden now the promised music land for Brit stars. The Independent[Online]. Available: http://www.pressdisplay.com/pressdisplay/viewer.aspx [Accessed 29 Jan 2013].

[40]**GORDON, S.** 2005. The future of the Music Business, Backbeat Books.

the online distribution into two categories: digital record companies and online record stores. The record labels that were able to dominate the market for a long period of time have been unable to control the transformation and have lost influenceover the composition of the sector. They may, however, remain important key players inthe newly restructured music industry as producers, global promoters and copyrights holders as they are consistent in engaging the new terms and conditions.

As for promotion, using the Internet to promote and book performances and tours has enabled artists to reach the public in a way it could not have imagined in the past. In Greece, the general trend towards artists selling their music independently has also become popular, thereby changing the nature of promotion of music in the country. The boom in web radio streaming has provided a great opportunity for advertising companies to exploit, whose profits serve also to compensate the artists.

While the consumer seems to have done well out of the digital era, enjoying high quality music with seemingly unlimited access, it has to be admitted that the emergence of the Internet does seem to have devalued music in some way. It is no longer a physical good, nor an impressive collection to be admired as in a library. The pleasure of collecting and finding rare items has been replaced by a super efficient system. You can even ' attend' a concert now without ever having to leave your room. The truth is though that while pre-Internet consumers may sense this loss, the new generation will never know what it missed anyway. Demand from consumers will be for even greater access and faster ways to 'pipe' their music, with little regard for tradition.

Clearly then, the future of consumption lies in keeping pace with consumer expectation and in the case of Greece, with the rest of the world. Incentives must be provided for people to pay subscription fees that allow for revenue streams and ensure quality so consumers know you get what you pay for. Only in this way can Greece's music industry overcome the problems of piracy that thwart its chances of making money out of music.

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FactorsAffecting Impulse Buying and Percentage of Impulse Buying in

Total Purchasing

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Abstract

Impulse buying as an unplanned purchasing and takes place: **"**when a consumer experiences a sudden, often persistent urge to buy something immediately. Impulse purchase, contrary to planned buying is immediate and spontaneous buying where the customer has no prior plans to buy and does not actively look for a product. There are many factors causing the urge of impulse buying. Impulse buying shares from 27 to 80 percent share of general purchasing.

Introduction

Clover, in1950 firstintroduced in marketing the idea of impulse buying (Chavosh et al 2011)and since the 1950s the phenomenon of impulse buying has been studied in consumer research, economics and psychology (Koski 2004) so since 1950s scholars are taking an interest in impulsive purchasing (Kongakaradecha & Khemarangsan, 2012).

Chavosh et al (2011) considered impulse buying as an unplanned purchasing. It is a response to incentives. Impulse buying is an intelligent purchasing because intelligent customers do not predetermine for their purchasing. Therefore Chavosh et al (2011) asserted that impulse buying takes place: **"**when a consumer experiences a sudden, often persistent urge to buy something immediately. The impulse to buy is hedonically complex and may stimulate emotional conflict. Also, impulse buying is prone to occur with diminished regard for its consequences.**"** Gutierrez (2004) revealed that impulse purchase, contrary to planned buying is immediate and spontaneous buying where the customer has no prior plans to buy and does not actively look for a product. Impulse buying besides spontaneity is an intense and exciting urge to buy regardless of purchase decision consequences. Saraswat & Prakash (2013) expressed that the impulse buying behavior happens after experiencing an urge to buy and tends to be spontaneous without a lot of reflection. Research on impulse purchasing is based on varying conceptual definitions of the construct, focused primarily on in-store retailing.

This study is focused on tracing and discussing the factors that stimulated and arouse the urge to

buy impulsively and determining the share of items bought impulsively to total purchasing. Factors pointed out, categorized and describes by different researchers are mentioned below.

Factors Affecting Impulse buying

Mihić & Kursan (2010) and Virvilaitė et al (2011) pointed out that based on empirical and theoretical studies impulsive buying behavior is stimulated and affected by a number of different factors, ranging from individual, demographic, and cultural to environmental ones. Yang et al (2011) with citations expressed that, a variety of personal, economic, temporal, cultural and spatial factors influence the impulse buying. These vary between different buyers who consider buying the same good, but also for the same buyer buying the same good in different situations. So it is assumed frequently that situational and personal factors are significant.

1-Factors by Yang et al

Yang et al (2011) classified the factors influencing impulse buying in four important categories. Marketers should be aware of these four important factors to make a complete and functional marketing plan. These factors categories are:

1- **External Stimuli** (e.g. promotions and advertising, store displays, atmosphere in the store, buying frequency, and retailers),

2 - **Internal Perceptions** (e.g. Emotion, Lifestyle, Money, Time pressure and Personality)

3 - **Buying Behavior** (e.g. price, payment and the time of purchasing) and

4 - **Demographic Variables** (e.g. Age, Gender, Income, Occupation, Marital Status, Education, Household income and Social status)

2- Factors by Chavosh et al and Mattila & Wirtz

Chavosh et al (2011) asserted that there are many general factors influencing impulse buying behavior presented in four general groups to which researchers of marketing and consumer behavior consider while evaluating impulse buying behavior of customer. These four groups are as follow:

1 - Product characteristics
2 - Consumer characteristics
3 - Situational factors
4 - Store characteristics

1-Product Characteristics

Chavosh et al (2011) pointed out that product characteristics, also influence impulsive buying behavior of customer and generally impulse purchased product is an inexpensive. Generally particular products are purchased impulsively based on their characteristics. With different applications product

categories are of two types.

- **Hedonic products**

The first category belongs to hedonic products, mainlyused for their hedonic advantages.

- **Functional products**

The second category belongs to functional products mainlyused for practical values.

Generally, impulse buying is made in hedonic products, mostly not supposed to accomplish practical needs because Impulse buying occurs when a customer is motivated to purchase a product by sudden and influential incentives. On the other hand, considering and putting emphasis only on the type of product presents a restricted perspective, in view of the fact that it is the persons, not the products, who experience the impulse purchasing. As regards contribution of characteristics of product, enough attention has not yet been paid to the impact of consumer characteristics on impulse purchasing behavior. Many researchers suggested that research studies wherein products are categorized into impulsive and non-impulsive groups are too restricted in outlook and do not adequately consider the consumer.

Mihić & Kursan (2010) referring literature revealed that, product design, the products displaying style, attractive colors, aroma, or music can attract the attention of shoppers by putting them in a good mood and stimulating the interaction with the store atmosphere and unplanned purchasing. Mihić & Kursan (2010) argued with references that product packagingor limited supplies notices also play a role in stimulating the impulse purchasing.

2 - Customer Characteristics

Chavosh et al (2011) Consumer characteristics include mood, gender, age, impulsive buying tendency, shopping enjoyment and materialism. These factors are briefly described below.

- **Age;**

Younger buyers do more impulse buying as compare to elder customers. Impulse buying has a negative relationship with age; so younger consumers rather than elder consumers have less self control over buying behavior. Because younger customers rather than elder customers illustrate more emotional reactions so hardly can conquer their emotional feelings but elder customers illustrate mostly a better control over emotional feelings.

- **Gender**

Gender is another characteristic factor of customers, affecting their impulsiveness. Men and women do not have same preferences when buying. Women select products, associated with relationships and emotions and mostly consider social identity whereas men generally buy products with instrumental and practical application and mostly consider personal identity while buying.

- **Mood**

Mood of customers have also impact on their impulse buying behavior. Positive feeling which, were defined as: "affects and moods that extremely influence the consumer decision for shopping". Therefore, negative and positive moods impulse buying behavior and impulse buying can help customers to change

their mood from negative to positive, because impulse buying happens without purchase planning and since it is an emotional reaction from the customer, it mostly comes up with non-logical motives such as intending to change a mood, expressing identity or enjoying and having fun.

Mihić & Kursan (2010) also argued with references that *mood*, plays a role in stimulating the impulse buying.

- **Materialism**

When talking about impulsiveness, customers who consider value with a materialism outlook mostly prefer to avoid doing impulse buying. They mainly choose to collect money rather than spending it and do not usually get affected by impulse buying.

- **Impulse buying tendency'**

 Another customer's characteristic variable, influencing the impulse buying which is also associated with a consumer's lifestyle is 'impulse buying tendency' that is "the extent to which customers are probable to do impulse buying".   Shopping life style and impulse buying behavior are highly associated in the case of impulse purchasers. Consequently, Customers are different in impulse buying tendency. Therefore, customers with high amount of impulse buying tendency are more probable to have intention to purchase some types of products impulsively.

- **Shopping Life Style**

Moreover, shopping being, considered as fun for some customers, so sometimes they spend their spare times on shopping though not buying any product. Therefore, as long as customers are enjoying their time in shopping sellers encourage them to stay longer at their shops and stimulate them for impulse buying. Moreover, sellers motivate the customers to buy by some incentives such as promotions leading to a higher amount of impulse buying. Psychological studies suggest "impulsiveness" as a personality feature.

3 - Store or Atmospheric Characteristics

Mihić & Kursan (2010) asserted that store atmospherestimulate the interaction and leads to unplanned purchasing. All researchers refer to the positive relationship of the atmosphere and purchasing outcomes, there are some contrary research results that did not find any relationship.

Mihić & Kursan (2010) argued with several citations that *physical surrounding or* internal factors of the shopping area include:

1 - General interior design – color, lighting, aroma, music, equipment, etc.;

2 - Arrangement of equipment and merchandise within the store;

3 - Display of merchandise;

4 - Point of sale promotional materials.

5 - In addition to this, the temperature and presenceof other people in the surrounding, i.e. social shoppers,

6 - In-store stimuli, such as promotional techniques, shelf signs, end-of-aisle displays, conspicuous product display, also play a role in stimulating the impulse buying.

Moreover, when the more timeis available, the higher is the chance for unplanned buying especially when there is no buying task. Other additional buying motivators are the sales or price discounts; the store location and accessibility and sales staff (Mihić & Kursan 2010).

Mattila & Wirtz (2001) expressed that the atmospherics influence on consumer behavior is accepted in the marketing literature, but theory development is limited in this area have long understood the importance of store environment in enhancing the shopping experience, and past research has examined the main effects of many pleasant ambient stimuli such as music and scent.

Mihić & Kursan (2010) wrote regarding market segmentation of customers with reference to store atmosphere that the segments can also be distinguished in terms of different perceptions of the atmospheric variables (odors, music and decoration) where the classification of *recreational shoppers*, *full experience shoppers*, *browsers* and *mission shoppers* can be found. Namely, all segments share the positive perceptions of music, while differ in other atmospheric components. For instance, *recreational shoppers*and *full experience shoppers* prefer decorations and odors; *browsers* value perceptions of odors, music, and decorations very close to the average for all groups, while the *mission shoppers* are *"less bothered by odors…consider the decorations more appropriate"*.

1-1-1-1-   4 - Impulsive Buying Situations and Situational Factors

Mihić & Kursan (2010) expressed that **situation** is "*a set of all the factorsparticular to a time and place of observation which do not follow from an attributes, and which have a demonstrable and systematic effect on current behavior". S*ituational factors, includes five elements:

(1) Physical surrounding,
(2) Social surrounding,
(3) Time,
4) Shopping task and
(5) Previous conditions with which the consumer enters the shopping surrounding

Yang et al (2011) is of the view that different situations of purchasing cause different impulse buying behaviors. The influence of the factors like situational factors, marketing stimuli and trait impulsivity in initiating impulse buying varies between different occasions as well as individuals, for the same product. When customers are hedonistic and enjoy shopping there is a tendency of customers to buy impulsively. More is time available with the customers the greater is the likelihood that a customers will buy and a purchaser with a strong tendency for impulse buying is more likely to buy than one with a weak tendency but increasing individual's self-control will help to avoid impulse shopping.

Mihić & Kursan (2010) asserted that situational factors are the external factors coming from the shopping environment when buyer comes into contact with particular visual stimuli (product or promotion) that create the unplanned buying. At that instant the shopper may feel a sudden

need to buy a particular product that has attracted customer's attention. Some researchers attach more importance to the influence of individual characteristics of shoppers believing that individual behavior is consistent in particular situations. On the other hand, advocates of situational variables stress that consistency in behavior alters depending on situation. Namely, some studies reveal that consumer behavior is conditioned by situation ranging from 4% to 43% of total behavioral variance, which points to the situational variables as the very reason for the change in stability of individual factors.

3- Factors by Kongakaradecha and Khemarangsan

Kongakaradecha & Khemarangsan (2012) from the previous studies have identified following factors that have influence on impulse buying.

1. Demographical Factors

2. **Social Factor**

3. Emotion Factor

4. Product's Promotion Factor

Kongakaradecha & Khemarangsan (2012) has briefly explained these factors as below:

1- Demographical factors:

These factors include income, gender and age of buyer and are relating to purchasing behavior.

These are expressed below in detail.

(i) - Income

It only depends on the income of the buyers what the product they do want to buy. Impulse buying is reserved for those customers who can afford it as income affects on impulse buying.

(ii) - Genderor Sex

Gender is also to influencing the tendency of impulse buying so   "women tend to buy on impulse more than men because men tend to spend less per shopping trip and spend less time in stores" and male shoppers make less impulse buying, or that female shoppers are increasing their number of such buying. Women are more likely to participate than men in unplanned purchasing, often buy items without prior intention and also buying items when shopping for other purposes. Kongakaradecha & Khemarangsan (2012)

Virvilaitė et al (2011) expressed referring some studies that if the number of purchase is stabile, then both women and men distinguish with similar degree of susceptibility to buy

impulsively. It is determined, that women different goods buy more impulsively with higher emotional level than men and women are more impulsive in emotional and cognitive aspects.

(iii) -Age

The relationship of age and impulse purchase indicated that young people of age group between 20-29 years with upper high school degree are wise spenders because they spend with planning. Another study revealed that younger age group would be impulse easier than older group so younger people buy more impulsively due to their spontaneously when act on the urge, whereas older can control their buying impulses. Kongakaradecha & Khemarangsan (2012)

Virvilaitė et al (2011) asserted after studies that age affects impulsive purchasing.

2. Social Factor

Social factors also have influence on impulsive buying behavior. Culture has two important traits Individualism and collectivism. Individualisms are a social pattern wherein individuals see themselves as independent and autonomous so, individualist people are motivated by their own need, right and preference. Whereas individuals associated with collective groups such as coworkers and family and follow the values and norms of these groups falls in the category of "collectivism". The determinant "Collectivism" as compared to "individualism" has a stronger relationship with the impulsive buying behavior. A research report revealed that what others think (word - of-mouth) and willingness of consumers to buy stuff from other opinion influence the new product knowledge. Thus, there is correlation between individual customer impulse purchasing behavior and desires to satisfy social needs, in that the purchases were incidental to the more important need to interact and approval of garner from a significant other or a group (Kongakaradecha & Khemarangsan, 2012).

3. Emotion factor

Emotion factor also affects the impulsive purchasing behavior. The level of impulsive purchasing is measured with mood. The more positive the mood would be the higher, the probability of impulsive buying behavior in buying products. Emotions strongly influence purchasing behavior especially basic need for instant satisfaction. Self-esteem is defined as: affect of impulse buying emotion, which determine intensity of consumer negative aspect of decision-making. Esteem does not significantly influence impulse purchasing behavior but the importance a consumer places on: relationships with others; receiving respect from others. Self-esteem is negatively related to compulsive purchasing behavior. Based on informants' reports, needs for fun, novelty, and surprise were identified. When people buying something new or feeling excited about making a purchase can regarding elevating feeling and reducing feeling of stress as well as leading to regret or mixed feeling of pleasure and guilt over buying an impulse buying (Kongakaradecha & Khemarangsan, 2012).

Virvilaitė et al (2011) referring several studies related impulsive buying behavior withemotions such as certain customer mood. Positive emotions of customer are related with

urge to buy on impulse so impulsive customers are more emotional than non- impulsive customers. Mood for some customers may be the most important psychological circumstance, stimulating impulsive purchasing. There is relation of impulsive buying both with negative and positive emotions. Comparing with negative emotions, a customer full of positive emotions would express higher impulsivity due to the sense of being unconstrained, higher energy flow and desire to award oneself. Impulsive customers make purchasing experience based on high emotions, whereas non-impulsive customers as compared to impulsive customers follow usually by utilitarian and rational decisions.

4. Product's Promotion Factor

Kongakaradecha & Khemarangsan (2012) wrote that the more is impulse buying in general, the higher the likelihood of buying of the promoted items between the three dependent variables Discount, Two for one (buy one get one), and Display. Products bought on impulse are usually cheap. Another factor that relate to impulse buying is advertisement. Retailers may stress the relative rationality of impulse buying in their advertising efforts, as well as Internet influence will be positively related to the teenager's role in decision making in impulsive purchase.

4 - Factors by Priyanka and &Rooble

Priyanka &Rooble (2012) asserted that an impulse buying is an unplanned decision to buy a product or service, made just before a purchase. They also enlisted many factors naming marketing communication mix affecting impulse buying behavior. Following is marketing communication mix mentioned by Priyanka &Rooble which affects Consumer's Impulse Buying Behavior in market: Advertising, Sales promotion, Personal selling, Public relations, Direct marketing. These factors are explained below.

Advertising:

Advertising reaches have geographically dispersed audiences, large, low cost per exposure and often with high frequency. Customers think advertised goods are expensive, impersonal, builds brand image, stimulate short-term sales, and dramatize brand and company, more legitimate and one-way communication. Advertisements are designed to emphasize the rewards of impulse buying (Priyanka &Rooble 2012).

Sales Promotion:

Sales Promotion is targeted at the trade or ultimate consumer, Makes use of a variety of formats such as coupons, premiums, contests, etc. Sales Promotion is short-lived, boosts sagging sales, attracts attention, stimulates quick response, offers strong purchase incentives, and dramatizes offers. It is not effective for building long-term brand preferences (Priyanka &Rooble 2012).

Personal Selling:

Personal Selling is most effective tool, for building preferences of buyers, actions and convictions, and personal interaction allows for feedback and adjustments, is relationship oriented; more buyers attentive, sales force represents a long-term commitment and is most expensive of the promotional tools (Priyanka &Rooble 2012).

Direct Marketing:

Direct Marketing comprises forms like direct mail, telephone marketing, and online marketing, etc. It has following four distinctive characteristics:

1. Non-public,
2. Immediate,
3. Customized, Interactive and
4. Well-suited to highly-targeted marketing efforts Priyanka &Rooble (2012)

Public Relations:

Public Relations are very believable and highly credible. They have many forms such as: news stories, news features, events and sponsorships, etc. They reach many prospects, missed via other forms of promotion, dramatizes product or company, relativelyinexpensive and often the most under used element in the promotional mix Priyanka &Rooble (2012).

Multi Brand Outlets (MBOs):

Priyanka &Rooble (2012) asserted that Multi Brand Outlets (MBOs), also named as Category Killers, offer several brands across a single product category. These do usually very well in busy market places and Metros. Presently such stores are also heading into less metropolitan cities because of their popularity and utilitarian ranges they received very well by the customers. Priyanka &Rooble (2012)

5 - Factors by Virvilaitė et al

Virvilaitė et al (2011) also wrote about **social interaction,** thatcustomers and shop staff belong to social factors influencing unplanned purchases. The help of the shop staff for customers stimulates impulsive buying process. Shop staff provides information about the goods, offers different possible alternatives or substitutes and small gifts promised to customers. So customers very often become impulse to buy.

Shop environment

Virvilaitė et al (2011) also argued that shop environment that is strongly stimulated and enjoyable is related with better possibility of impulsive purchasing behavior manifestation. Excitement of customers decreases possibility of thinking about the actions taken. Stimulation of customers at the shop is possible though colors, sounds, or exclusive aromas.

Virvilaitė et al (2011) also expressed that impulsive buying behavior is stimulated by different factors. Main distinguished stimulating factors of impulsive buying are described below.

Emotions

Some researchers relate impulsive buying behavior with certain customer mood. Purchasing experience of impulsive customers is based on high emotions. Positive emotions of customer are related with urge to buy on impulse. Therefore impulsive customers are more emotional than non-impulsive customers. Mood for some customers may be the most important psychological circumstance, stimulating impulsive buying. People sometimes present gifts to one wishing to raise the mood. Comparing with negative emotions, a customer full of positive emotions would express higher impulsivity due to the sense of being unconstrained; desire to award oneself and higher energy flow. When compared impulsive and non-impulsive customers, the latter usually follow by rational and utilitarian decisions (Virvilaitė et al 2011).

Supermarkets

Virvilaitė et al (2011) stated with citations that more often big supermarkets' visitors are characterized in impulsive purchase behavior. Observation of products in different shops and experienced emotions are closely related with impulsive purchasing.

Individualism and Collectivism

Virvilaitė et al (2011)stated that the effect of buying impulsively together with another person is distinctive in different cultures. Consumers from collectivist cultures are more satisfied when buy on impulse together with other persons than when buying alone. Individualists did not express any major difference in process satisfaction when buying alone or with someone else. Planned purchases do not influence either collectivistic or individualistic culture representatives.

Sex (Gender)

Virvilaitė et al (2011) mentioned that if the number of purchase is stabile, then both women and men distinguish with similar degree of susceptibility to buy impulsively. Women are more impulsive in emotional and cognitive aspects so women buy different goods more impulsively with higher emotional level than men.

Shop environment

Virvilaitė et al (2011) are of the view that shop environment which is enjoyable is related with better possibility of impulsive purchasing behavior. Excitement of customers decreases possibility to think about the actions taken. Consumer's stimulation at the shop is possible though exclusive aromas, sounds and colors.

Social interaction

Virvilaitė et al (2011)opined that shop staff and other customers belong to social factors influencing unplanned purchases. It is supposed, that help of the shop staff for consumers stimulates process of impulsive purchasing. Consumers are provided with information about the goods, different possible alternatives or substitutes are offered and small gifts are promised. Other consumers very often became an impulse to buy.

Hedonic motives

Virvilaitė et al (2011) with references argued that some researchers link impulsive purchase behavior with customer's hedonic needs satisfaction. Essential hedonic motives of impulsive purchasing are pleasure, novelty, surprise, fun and emotional exaltation. Customers are more likely to buy impulsively when they are motivated by hedonic needs and feel high and take on new energy following after purchase process.

Involvement into fashion

Virvilaitė et al (2011) pointed out that customers, following the latest fashion trends, are characterized by high degree of involvement into fashion and impulsive purchasing as well. High degree of involvement into fashion stimulates to buy impulsively because of existing experience and sensual signals. To fashion oriented impulsive purchase is often related with hedonic consuming tendencies and positive emotions. Researchers identified four dimensions of orientation to the fashion: 1 - fashion leadership, 2 - interest in fashion, 3 - the need to be well dressed and 4 - fashion failure.

Age.

Virvilaitė et al (2011) showed that age effect impulsive purchasing.

Psychology of the individual

Virvilaitė et al (2011) revealed that socio-psychological aspects and its influence to consumer behavior are studied through motivation. An individual who perceives that there is a discrepancy between his or her actual self and his or her ideal self and who is prone to use material goods to compensate for this discrepancy should have excessive buying tendencies. The lack of time, financial resources, and the portability of the product, store location, weather or traffic may also be factors that contribute to impulsive buying.

Customer Segmentation in Terms of Impulsiveness

Mihić & Kursan (2010) in a study based on market segmentation and relation of situational factors and impulsive buyer behavior considered planned and unplanned purchasing and identified three customer types:

1- **planners**(plan purchase, product category and brand),
2- **partial planners**(partially plan purchase of product category but not the brand)

3 - **impulse buyers**(plan neither product category nor brand).

In terms of buying behavior and habits there are **traditional**and **new**customer segments dividing consumers as **choice optimizers**(involved in the shopping process and evaluations), **economizing**(price conscious), **pre-meditated**(know what they want), **recreational**(impulsive), **low information seekers**and **seeking support**. Some researchers focus on *socializing, disloyal, independent perfectionists, apathetic, budget conscious* and *escapist shoppers* where the latter can be observed as impulsive buyers (Mihić & Kursan 2010).

Importance and Percentage of Impulse Buying to Total Buying

Yang et al (2011) revealed that external stimuli drive impulsive buying, for example promotion strategies of retailer, making customer ambivalent and triggering the need to buy immediately. El-Meniawy (2012) early impulse buying researchers initially noticed the importance of impulse buying, revealing a significant amount of impulse purchases in retail stores in the 1950's. Madhavaram & Laverie (2004) also mentioning some studies argued that impulse buying accounts for a substantial percentage of the products sold across a broad range of product categories.

Jeffrey & Hodge (2007) expressed that understanding the psychological drivers of impulse behavior is of critical importance because a large portion of spending is categorized as unplanned or impulse. Jeffrey & Hodge (2007) quoting findings of some studies mentioned that impulse purchases a shopper makes without planning in advance during 1945 to 1959 rose from 38.2 percent to 50.9 percent of the total purchases in supermarkets and researchers also found that in the late 1970s impulse purchases accounted for between 27 and 62 percent of purchases in department stores. Annie Seeley, a Food Commission nutritionist in a recent study, stated, that, "seventy percent of confectionary is bought on impulse". POPAI (point of purchase industry body) found an extreme result indicating that 75 percent of buying decisions are made in-store.

Kacen & Lee (2002) and Park & Choi (2013) argued that in the United States impulsive consumer buying behavior is a widely recognized phenomenon and a study about USA pointed out that impulse buying for marketers is an area of great profitability because up to 80 percent of all purchases in certain product categories and purchases of new products are impulse buying and over four billion dollars of annual sales in the U.S. represents impulse purchasing. A study conducted in 1997 found that an estimated 4.2 billion dollars annual store volume was generated by impulse sales of candy and magazines like items.

Koski, (2004) also revealed that impulse purchasing for retailing is an important source of revenue and sharing 30-50 % among all purchases. (Koski, 2004)

Kongakaradecha & Khemarangsan (2012) reviewing literature squeezed that since over 50 years Researchers are taking an interest in impulsive purchasing. In the marketing world impulse buying behavior is a mystery, which accounts for a substantial volume of the goods sold every year across a broad range of product categories. In fact, today nearly 70 per cent of all buying decisions are made at the

point of purchase, making impulse buying accounting for a substantial volume of goods sold across a broad range of product categories. These studies show that almost 90 per cent people make purchases on impulse occasionally and between 30 per cent and 50 per cent of all purchases buyers themselves classify as impulse purchases.

Mihić & Kursan (2010) stated that some authors consider that the frequency of unplanned or impulsive buying is as high as 90% and nine out of ten consumers buy sometimes on impulse while impulse buying occurs in 27% to 62% of all purchases.

Saraswat & Prakash (2013) asserted that impulse buying accounts for a substantial percentage of the products sold across a broad range of product categories. Research on impulse buying is based on varying conceptual definitions of the construct primarily focused on in-store retailing.

El-Meniawy (2012) mentioned quoting some studies that in 1997, approximately 40 percent of consumers defined themselves as impulse buyers, and impulse buying was up to 80 percent of all purchases in certain product categories. By 2001, over 50 percent of mall purchases were impulse purchases. An impulse buying makes a noteworthy contribution to store sales volumes; retailers have invested considerable efforts to trigger such phenomenon through their store displays, product packages, and in store promotional devices. The economic importance of impulse buying cannot be overestimated and the economy would collapse if people shopping only when they need to buy something. The in- store or point – of- purchase buying decisions are described as commonplace, expected consumer behavior and includes recommendations about creating store environments that encourage impulse buying.

Priyanka &Rooble (2012) mentioned that almost 90 percent of people make occasional impulsive purchases and from 30 to 50 percent of all purchases were classified by the buyers themselves as impulse purchases. Priyanka &Rooble (2012) also referred findings of a study wherein impulse buying was found between 27% and 62% of all department store purchases.

Table -1

Table Showing Percentage of Impulse Buying in total Purchases and Buying Decision

Research Study	Percentage of impulse buying	Percentage of Customers impulse buying Decisions
Koski, (2004)	**30 to 50**	**-**
Jeffrey & Hodge (2007)	**27 to 62**	**75**
Mihić & Kursan (2010)	**27 to 62**	**90**
Kongakaradecha & Khemarangsan (2012)	**30 to 50**	**70**
El-Meniawy (2012)	**Over 50**	**-**
Priyanka &Rooble (2012)	**30 to 50**	**90**
Kacen & Lee (2002) and Park & Choi (2013)	**Up to 80**	**-**

Source: Self constructed from literature

266

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Energy Consumption and Economic Growth Nexus: Empirical Evidence from Tunisia

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Abstract

This article examines the two-way linkages between energy consumption and economic growth using data from Tunisia over the period 1974-2011. This research tests this interrelationship between variables using the Johansen co-integration technique. Our empirical results show that there exists bidirectional causal relationship between energy consumption and economic growth in the long-run.Our results significantly reject the neo-classical assumption that energy is neutral for growth. Furthermore, we find that decreasing energy consumption decreases growth and vice versa, and that increasing energy consumption increases growth, and vice versa. The study suggests that energy policies should recognize the differences in the nexus between energy consumption and economic growth in order to maintain sustainable economic growth in Tunisia.

Keywords: Economic growth, Energy consumption, Johansen cointegration, Granger causality, Tunisia.

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1.Introduction

Since the oil shocks of the 1970s, the energy efficiency is a major concern for all countries of the world, and a growing interest in the study of the relationship between energy consumption and GDP growth. Indeed the level of economic and social development of a country is often linked to the level of energy consumption per capita. Energy plays an important role in the economic growth of both developed and developing countries. The growth hypothesis suggests that energy consumption is an indispensable component in growth, directly or indirectly as a complement to capital and labour as an input in the production process (Mulegeta et al. 2010). Since production and consumption activities involve energy as an essential factor inputs, the relationship between energy consumption and economic growth has been a subject of greater inquiry as energy is considered to be one of the important driving force of economic growth in all economies (Abdulnasser and Manuchehr, 2005). The question as to whether energy consumption has positive, negative or neutral impact on economic activities has motivated the interest of economists and policy analysts hence the need to find out the impact and direction of causality between energy consumption and economic growth (Eddine, 2009).

In literature, the nexus between energy and economic growth has attracted attention of researchers in different countries for a long time. This nexus suggests that higher economic growth requires more energy consumption and more efficient energy use needs a higher level of economic growth. Since the pioneer work of Kraft and Kraft (1978), Granger causality test approach has become a popular tool for studying the relationship between economic growth and energy consumption in different countries, e.g. Stern (1993), Altinay and Karagol (2004), Omotor (2008) and Olusegun (2008), Belloumi (2009), Pao (2009), Odularu and Okonkwo (2009), and Ghosh (2010). However, Altinay and Karagol (2004) investigated the causal relationship between electricity consumption and real GDP in Turkey over the period of 1950–2000. They showed that both used tests have yielded a strong evidence for unidirectional

causality running from the electricity consumption to income. This implies that the supply of electricity is vitally important to meet the growing electricity consumption, and hence to sustain economic growth in Turkey. Omotor (2008) and Olusegun (2008) investigated the causality and long run relationship between energy consumption and economic growth, the work of Olusegun (2008) is particularly noteworthy as it is one of the first to apply the ARDL bounds test approach to co-integration. Belloumi (2009) has used a VECM Model and showed that, in Tunisia, there is a causal relationship between energy consumption and income over the period of 1971-2004. Odularu and Okonkwo (2009) their study is limited to the long run relationship between the energy consumption and economic growth. Furthermore, studies by However, the author did not consider coal consumption as one of his respective independent variables. Therefore, this study intends to fill this gap in the literature.

As we can see, the result of the above studies on the relationship between energy consumption and GDP differ from country to another and vary depending to the used methodology (See Table 1). In fact, our paper investigates the two-way between energy consumption and economic growth in Tunisia over the period 1990–2011 using the Johansen co-integration and Granger causality techniques.

Therefore, the major objective of this study is to empirically examine the linkages between the impacts of energy consumption on economic growth in Tunisia. In order to achieve this objective, the paper is organized into five sections including this introduction. The rest of the paper is organized as follows: Section 2 briefly reviews the related literature. Section 3 outlines the econometric modeling approach and describes the data used. Section 4 reports and discussed the empirical results. Section 5 concludes the article and offers some policy implications.

2. Energy consumption and growth nexus

Historically, in the literature concerning the scope of our study, there are four generations of models (Mehara, 2007).Indeed, the first generation is based on the traditional VAR model Sims and testing classic Granger causality, it assumes that all macroeconomic series are stationary (Kraft and Kraft, 1978; Akarca and Long, 1980, Yu and Hwang, 1984, Yu and Choi, 1985). The second and third generation augured non -stationary macroeconomic series. They used cointegration as the most appropriate technique. For the

second generation, once tested the degree of cointegration between the two series, it estimates the error correction model. Finally, it tests the causal relationship (Yang, 2000, Butt, 2001). In addition, the third generation uses multivariate cointegration approach based on the method of maximum likelihood (Masih and Masih, 1996). The fourth generation of the test procedures used in unit root and cointegration based on panel data (Al- Iriani, 2006, Lee, 2007, 2008, Mahadevan and Asafu - Adaye, 2007).

From a study of Kraft and Kraft (1978), the analysis of the link between energy consumption and economic growth has been studied extensively over the past three decades. However, the evidence is still controversial; the literature of the energy economy has carefully considered the nature of the causal relationship between energy consumption and economic growth. However, there is no consensus on the direction of causality; the findings of empirical studies are divergent. In a study of two countries Ebohon (1996) used to test Granger causality and showed that there is a causal relationship between energy and economic growth in Nigeria and Tanzania.

Asafu-Adjay (2000) in examining the causal relationship between energy consumption, energy prices and economic growth in India, Indonesia, the Philippines and Thailand, uses cointegration techniques modeling error correction. It shows that there is a unidirectional causal relationship between the two series in India and Indonesia. While, a bidirectional causality from energy consumption to income for Thailand and Philippines. However, evidence of two-way relationship is established in the study of Yang (2000) on the Chinese province and Taiwan.

Also, the study Soytas and Sary (2003) for G7 countries and some emerging markets has led to varying conclusions. They suggest the presence of a bi-directional causality in Argentina, unidirectional causality from GDP to energy consumption in Italy and Korea and a unidirectional causality from energy consumption to GDP in Turkey, France, Germany and Japan. Application of cointegration techniques and vector error correction on data from Malawi for the period 1970 to 1999, Jombe (2004) found bidirectional causality between electricity consumption and economic growth, but a unidirectional causality running from GDP power consumption. In studies of Morimoto and Hope (2004) and Wolde-Rufael (2004) in Siri Lanka and Shanghai have shown the existence of a unidirectional causality from

energy consumption to GDP. Some other studies have yielded conflicting findings, such as the Oh and Lee (2004) in Korea study indicate a bidirectional causality relationship in the long term and a unidirectional causality from energy consumption to GDP in the short term. Similarly, Wolde- Rufael (2005) also found contradictory and a unidirectional relationship of energy consumption to GDP for African countries results.

In the case of Malaysia, Ang (2008) found that pollution and energy use were positively related to output in the long-run with strong support for causality running from economic growth to energy consumption, both in the short-run and long-run. Bellouni (2009) apply the Johansen cointegration technique to assess the causal relationship between energy consumption and gross domestic product per capita in Tunisia during the period 1971-2004. These results show a relationship of long-term bidirectional causality between the two series and a unidirectional causality in the short term from the energy to GDP. For the same conclusion, Odhiambo (2009) found that there is a unidirectional causal relationship running from energy consumption to economic growth for Tanzania. In contrast to the findings of Soytas and Sari (2009); Halicioglu (2009) found that there was a bi-directional Granger causality (both in short- and long-run) running between carbon emissions and income in Turkey. In a multivariate causality study for China, Zhang and Cheng (2009) found a unidirectional Granger causality running from GDP to energy consumption, and a unidirectional Granger causality running from energy consumption to carbon emissions in the long run but neither carbon emissions nor energy consumption leads economic growth.

These studies show that the results regarding the causal relationship between energy consumption and economic growth are sometimes conflicting and mixed across different countries when time-series analysis is applied to a single country data set as shown in Table1.

Table1

Summary of empirical studies on energy consumption–growth nexus for country-specific studies.

No. Authors	Period	Country	Methodology	Direction of Granger causality
1. Kraft and Kraft (1978)	1947–1974	USA	Granger causality	GDP→EC

273

2. Akarca and Long (1980)	1950–1970	USA	Sim's technique	GDP- - - -EC
3. Yu and Hwang (1984)	1947–1979	USA	Sim's technique	GDP- - - -EC
4. Yang (2000)	1954–1997	Taiwan	Engle–Granger; Granger causality–VAR	EC↔GDP
5. Aqeel and Butt (2001)	1955–1996	Pakistan	Engle–Granger; Hsiao's test for causality–VAR	EC→Y
6. Jumbe (2004)	1970–1999	Malawi	Engle–Granger; Granger causality–VECM	EC↔GDP
7. Oh and Lee (2004)	1970–1999	Korea	Granger causality and error correction model	EC→GDP
8. Wolde-Rufael (2004)	1952–1999	Shanghai	A modified version of Granger causality (Toda and Yamamoto)	EC→GDP
9. Yoo (2005)	1970–2002	Korea	Johansen–Juselius; Granger causality–VECM	EC→GDP
10. Lee and Chang (2005)	1954–2003	Taiwan	Johansen–Juselius, Co-integration, VEC	EC→GDP
11. Yuan et al. (2007)	1978–2004	China	Johansen–Juselius; Granger causality–VECM	EC↔GDP
12. Erdal et al. (2008)	1970–2006	Turkey	Pair-wise Granger causality, Johansen co- integration	EC↔GDP
13. Ang (2008)	1971–1999	Malaysia	Johansen co-integration, VEC model	GDP→EC
14. Tang (2008)	1972–2003	Malaysia	ECM based F-test; Granger causality; Toda–Yamamoto's test for	EC ↔GDP
15. Belloumi, 2009	1971–2004	Tunisia	Granger causality, VECM	EC↔GDP (in the long-run) EC→GDP (in the short-run)
16. Zhang and Cheng (2009)	1960–2007	China	Granger causality	GDP→EC
17. Halicioglu (2009)	1960–2005	Turkey	Granger causality, ARDL, co-integration	GDP- - - -EC
18. Soytas and Sari (2009)	1960–2000	Turkey	Toda–Yamamoto causality test	GDP- - - -EC

19. Odhiambo (2009)	1971–2006	Tanzania	ARDL Bounds tests	EC→GDP
20. Ouedraogo (2010)	1968–2003	Burkina-Faso	ARDL Bounds tests	ELC↔GDP
21. Chandran et al. (2010)	1971–2003	Malaysia	ARDL bounds testing; Engle–Granger; Johansen–Juselius; Grang	EC→GDP
22. Jamil and Ahmad (2010)	1960–2008	Pakistan	Johansen–Juselius; Granger causality–VECM	GDP→EC
23. Lean and Smyth (2010)	1971–2006	Malaysia	ARDL bounds testing; Johansen–Juselius; Toda–Yamamoto test for	EC↔GDP

Note: EC→GDP means that the causality runs from energy consumption to growth.

GD→PEC means that the causality runs from growth to energy consumption.

EC↔GDP means that bi-directional causality exists between energy consumption and growth.

EC----GDP means that no causality exists between energy consumption and growth.

Abbreviations are defined as follows: VAR = vector autoregressive model, VEC=vector error correction model, ARDL = autoregressive distributed lag, EC = energy consumption, GDP = real gross domestic product. ECM= error correction model, and GMM = generalized method of moments

3. Methodology, Model, and Data

3.1. Methodology

The methodology adopted is that of Ambapour and Massampa (2005) using cointegration and error correction model to study the relationship of cause and effect between energy consumption and economic growth. The notion of causality used is specified. It is based on the definition of Granger believes that variable is caused by another when there is information in the past, one that is useful in predicting the other, and who are not already contained in its past. Far from being exhaustive, this definition is an essential step in a statistical study.

3.1.1. Causality in the case of cointegrated variables

So far, we are limited to causal analysis in stationary systems. However, over the past twenty years, many articles note that most macroeconomic series are non-stationary, in particular section of Nelson and Plosser (1982). This implies that before applying any estimation method, a thorough analysis of the

properties of the series is essential. The main objective is to identify the possible non-stationary series. This is somehow the step of determining their order.

3.1.1.1. Order of integration of the series

A non-stationary series X_t is said to be integrated of order d ($X_t \sim I(d)$) if, having been differentiated d times, it is stationary. In other words, $X_t \sim I(d)$ if and only if $(1-L) X_t \sim I(0)$. Most macroeconomic time series are integrated of order one, they have a unit root. A unique differentiation enough to make them stationary. The simplest example of variable I (1) is the random walk. The most powerful method to determine the order of integration of a series is based on the unit root tests.

- Unit root tests

The unit root tests are used to detect the presence of unit root in a series. Among the existing unit root tests, we found the test Augmented Dickey-Fuller. This test is the most widely used because of its simplicity. It involves testing the null hypothesis $H_0: \rho = 1$ against the alternative hypothesis $H_1: |\rho| < 1$. It is based on the least squares estimation of the following three models:

$$\Delta y_t = (\rho - 1)y_t + \sum_{j=1}^{p-1} \phi_t \Delta y_{t-1} + \varepsilon_t \qquad \text{Model 1: without constant without trend;}$$

$$\Delta y_t = (\rho - 1)\Delta y_t + \sum_{j=1}^{p-1} \phi_t \Delta y_t + \alpha + \varepsilon_t \qquad \text{Model 2: with constant without trend;}$$

$$\Delta y_t = (\rho - 1)\Delta y_t + \sum_{j=1}^{p-1} \phi_t \Delta y_t + \beta t + \alpha + \varepsilon_t \qquad \text{Model 3: with constant trend with.}$$

Referring to the values GameCafé by Fuller in 1976 and Fuller is sequentially into three stages from the model (3) the model (1):

Step 1: Every time you start by testing the significance of the trend of the model (3) by referring to tables of Dickey-Fuller. If the trend is not significant, we move to the model (2), and if the trend is more significant when we test the null hypothesis of unit root in the manner presented above, it appears that the series is non-stationary must differentiate and start the test procedure on the series in first difference. In

this case, the testing process stops and you can work directly on the X_t series.

Step 2: where the model is estimated (2), we begin by testing the significance of the constant. If the constant is not significant is happening in model (1) in step 3. If, against the constant is significant, it also tests the null hypothesis of unit root and proceed in the same way as the first step.

Step 3: we directly test the null hypothesis of unit root

- Cointegration test

This is the next step after the preliminary tests to verify non-stationary series.

According to "Engle and Granger" (1987), two non-stationary series are cointegrated if their linear combination follows an equilibrium path without ever leaving its average long even if they have divergent developments. In other words, there is a stable long-term evolution of these series. The estimated relationship takes the following form:

$$Y_t = a'x_t + Z_t (1)$$

Where; Y_t is the dependent variable; a' is the vector of coefficients of the explanatory variables; X_t represents the vector of explanatory variables; and Z_t is the error term. Z_t can be written as a linear combination; $a'X_t$ normalized with respect to Y_t and can take the following form:

$$Z_t = Y_t - a'X_t (2)$$

The relation (2) is thus valid only if Xt and Y_t are co-integrated, that is to say Z_t stationary. Since Z_t stationary, X_t and Y_t will tend to vary together in time and may suffer momentary deviations, but cannot deviate without limits. Relation (2) is as a long-term relationship or equilibrium measurement and Z_t the deviation from the equilibrium value. Engle and Granger (1987), Engle and Yoo (1987) proposed to determine the relationships existing cointegration in a system with a two-step method.

In a first step, we regret the OLS level variables and we see if the residue of this regression is stationary in a second step. That said, for the test of cointegration between integrated processes of order 1 is estimated by OLS static long-run decline in the levels of variables and then the unit root tests are

applied to the estimated residue.

The co-integration test used in this study is that of Johansen (1988, 1991). The Johansen procedure port on the rank of matrix P which determines the number of cointegrating vectors. Two statistics are available: the trace test and the test of maximum eigenvector.Trace test is a test report maximum likelihood of calculating the following statistic:

$$TR = -T \sum_{i=q+1}^{N} \log(1 - \lambda_i) \quad (3)$$

The null hypothesis tested is $r \leq q$, which is to say that there are at most r cointegrating vectors. This test amounts to testing the rank of the matrix P, since testing the existence of r cointegrating vectors in a test of the null hypothesis: Rank (P) = r.On the maximum eigenvalue test, the test statistic is given by:

$$VP_{max} = -T \log(1 - \hat{\lambda}_{q+1}) \quad (4)$$

There are three possibilities. First, r = 0 in the case where all variables are non-stationary, but there is no cointegration. Second, r = N (N is the number of variables in the VAR model) where all the variables are stationary. Third, 0 <r <N if it non-stationary linear combinations of variables.The critical values of these statistics were tabulated including Johansen (1988) and Johansen and Jueslieus (1990).

According to the Granger representation theorem, any cointegrated system implies the existence of a mechanism that prevents error variables stray too far from their long-run equilibrium adjustment.

In general, the error correction models are used to model adjustments that lead to a situation of long-term equilibrium. These are actually dynamic models that incorporate both short-term developments and long-term variables. The error correction model is written as follows:

$$\Delta Y_t = \mu_1 + \sum_{i=1}^{k-1} \alpha_i \Delta Y_{t-i} + \sum_{i=1}^{k-1} \beta_i \Delta X_{t-i} + \lambda EC_{t-1} + \varepsilon_t \quad (5)$$

$$\Delta Y_t = \mu_2 + \sum_{i=1}^{k-1} \alpha_i' \Delta Y_{t-i} + \sum_{i=1}^{k-1} \beta_i' \Delta X_{t-i} + \lambda' EC_{t-1} + \varepsilon_t' \quad (6)$$

Where ε_t and ε_t' are both white noise; EC_{t-1} is estimated from the cointegration residues delayed by a period, and the coefficients λ and λ' are the respective adjustment speeds. The cointegrating relationship

reflects the long-term equilibrium and short-run dynamics of the variables into account fluctuations around the long-term relationship.

- Causality test

The concept of Granger causality is a theoretical approach to causation which refers not to the theoretical nature of causality (cause and effect), but the predictive nature of the possible cause of the effect. According to Granger, a variable X cause variable Y, if knowledge of the lagged values of the same variable, and lagged values of X that is considered causal variable.

A version of the Granger test directly after the previous representation provides an estimate by the method of least squares the following two equations:

$$Y_t = \psi + \sum_{i=1}^{p} \rho_i Y_{t-1} + \sum_{j=1}^{p} \gamma_j X_t + \nu_t \quad (7)$$

$$X_t = \alpha + \sum_{i=1}^{p} \delta_i X_{t-1} + \sum_{j=1}^{p} \varphi_j Y_t + \varepsilon_t \quad (8)$$

Test assumptions attached to conclude on the direction of causality. X_t and Y_t causes in the Granger sense, if the null hypothesis defined above can be rejected in favor of the alternative hypothesis $\mathbf{H_0}: \gamma_1 = \gamma_2 = \cdots = \gamma_k = 0; \mathbf{H_1}: \gamma_1 \neq \gamma_2 \neq \cdots \neq \gamma_k \neq 0$

Similarly, Y_t causes X_t to Granger. If the null hypothesis defined above, can be rejected in favor of the alternative hypothesis: $\mathbf{H_0}: \varphi_0 = \varphi_1 = \cdots = \varphi_K = 0, \mathbf{H_0}:$ au moins un des $\varphi_i \neq 0$

Engle and Granger (1991) showed that if the variables are integrated, the classical Granger test based on the VAR is no longer appropriate. They recommend making use of the error correction model. In addition, the causality test based on vector model for correcting this error the advantage of providing a causal relationship even if no estimated variable interest offset coefficient is significant. Therefore we rewrite equations (7) and (8) the following manner:

$$Y_t = \psi + \sum_{i=1}^{p} \rho_i Y_{t-1} + \sum_{j=1}^{p} \gamma_j X_t + \tau Z_{t-1} + \nu_t \quad (9)$$

$$X_t = \alpha + \sum_{i=1}^{p} \delta_i X_{t-1} + \sum_{j=1}^{p} \varphi_j Y_t + \lambda Z_{t-1} + \varepsilon_t \quad (10)$$

Using the vector error-correction model, X_t does not cause Y_t in the Granger sense if $\gamma = \tau = 0$; Y_t does not cause X_t if $\varphi = \lambda = 0$.

3.2. Empirical Model

The model we tested expressed a hypothesis which is the link between energy consumption, the income represented by economic activity and the relative price of energy is introduced as an additional variable GDP = f (EC, EP). The relationships built through this basic proposal are:

$$GDP_t = \alpha^{GDP} + \beta^{GDP} \, EC_t + \gamma^{GDP} \, EP_t + \varepsilon_t$$

$$EC_t = \alpha^{EC} + \beta^{EC} \, GDP_t + \gamma^{EC} \, EP_t + \mu_t$$

$$EP_t = \alpha^{EP} + \beta^{EP} \, GDP_t + \gamma^{EP} \, EC_t + \varphi_t$$

With GDP_t: The level of income, EC_t: energy consumption and EP_t: The energy prices.

3.3. Data source and descriptive statistic

About our field of study, in most studies, it is often difficult to collect statistics for a country. This finding particularly true when it comes to statistics on African countries. These are either non-existent or published occasionally so that it is often with limited data.

In many studies concerning the subject matter hereof, the terms of economic growth, energy consumption and energy prices are not clearly defined. A number of variables are often used to represent them. As a proxy for economic growth, is most often used is the GDP, GNP, and in some cases, national income and industrial production. Regarding energy consumption, it is considered to be the total consumption or an aggregate index, weighted by the different energy sources. So for the price of energy can be used as a proxy of the price of total energy, or the index of consumer prices.

To study the relationship between energy consumption and economic growth, annual data is extracted from World Bank's World Development Indicators 2012 and the National Institute of Statistics 2009 for the period 1974–2011. This paper uses annual time series data which include the real GDP per

capita (constant 2000 US$), energy consumption (kg of oil equivalent per capita), and the price of energy (the index of consumer prices) for Tunisia.

The descriptive statistics, the mean value, the standard deviation, the Min and Max of different variables for individuals and also for the panel are given below in Table 2.This table provides a statistical summary associated with the actual values of the used variables for Tunisia.The highest means of GDP per capita (23.265), energy consumption (6.093), and price of energy (3.979). The highest standard deviation of GDP per capita (0.9643), energy consumption (0.666), and price of energy (0.665).

Table 2

Descriptive statistics of variables

Variables	Description	Min	Max	Means	Std. dev.
Ln GDP	GDP (constant 2000us$)	21.245	26.719	23.265	0.9643
Ln EC	Energy use (kt of Oil equivalent)	4.938	6.971	6.093	0.666
Ln EP	Consumer price index	2.827	4.858	3.979	0.665
Observations		38	38	38	38

Notes: Std. Dev.: indicates standard deviation,Means: indicates moyen, EC: indicates per capita energy consumption, GDP: indicates per capita real GDP, and PE indicates energy price.

figure 2: Evolution de la PIB

figure 1: Evolution de la CE
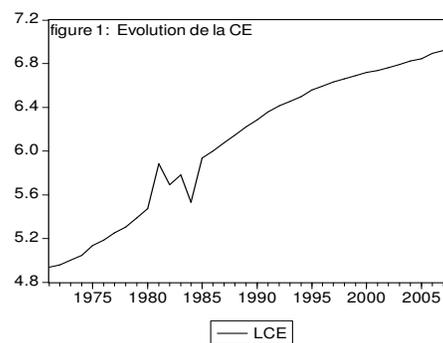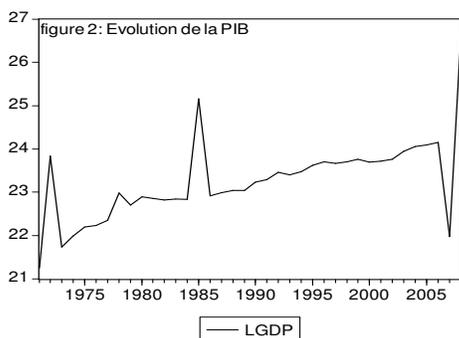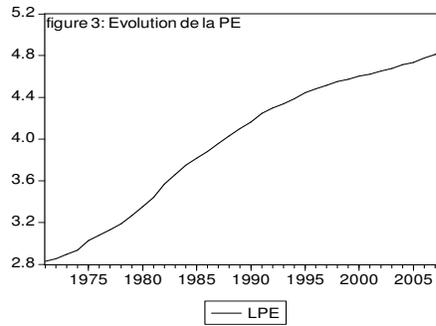
Fig 3. Evolution series LGDP, LEC, LEP.

5. Empirical findings and discussion

The causal relationship between energy consumption and GDP has been studied extensively over the past three decades. Large literatures reviewed in this area are evidence of a unidirectional, bidirectional, or no causality in the countries surveyed. However, in our Tunisian case, we will see the result of causality between energy consumption and GDP by applying the Granger causality test.

5.1. Unit root test

The results of the unit root test are presented in Table 3. The delays were optimized by both Akaike and Schwarz criteria. The above table gives the results of unit root tests that we performed.

Table 3

Results of unit root tests

Variables	Retard P	Model	t-stat ADF	VC	Conclusion
Ln GDP	1	Model 2	- 1,868	- 2,94	I(0)
ΔLn GDP			- 7,40	- 2,94	I(1)
Ln EC	3	Model 2	- 2,357	- 2,94	I(0)
ΔLn EC			- 3,844	- 2,959	I(1)
Ln EP	2	Model 2	- 2,59	- 2,94	I(0)
ΔLn EP			- 3,55	- 2,94	I(1)

Table 3 provides information on the presence of a unit root level for each of the cate series and no unit root dice the first differentiation. So the three variables (GDP, EN, and PE) are stationary in first differences. They are then integrated of order 1 [I (1)]. The null hypothesis of unit root is accepted at 5% level. It is therefore possible that they are co-integrated.

5.2. Johansen co-integration test

Given the results of unit root tests, cointegration tests were conducted to demonstrate the existence of a stable long-term relationship between the level of GDP, energy consumption (EC) and the price of energy (PE).

A preliminary step is to determine the number of delays in writing the VAR model using information criteria to be AIC and Schwarz. The results provided by these two criteria are shown in the table 4.

Table 4

The choice of the number of delay

	Akaike	Schwarz
P = 1	-4,5	-3,98
P = 2	-4,64	-3,72
P = 3	-4,67	-3,34
P = 4	-4,29	-2,54

According to this table the number of lags is optimized K = 2.Remember that the different sub-models of the tested model are as follows:

Model 1: There is no constant and linear trend in the VAR and the cointegrating relationship does not include more constant and linear trend.

Model 2: There is no constant and linear trend in the VAR, but the cointegrating relationship includes a constant [no linear trend].

Model 3: There are constant [no linear trend] in the VAR and the cointegrating relationship includes a constant [no linear trend].

Model 4: There are constant [no linear trend] in the VAR model, the cointegrating relationship includes a

constant and a linear trend.

Model 5: There are constant and trend in the VAR and the cointegrating relationship includes a constant and a linear trend.

In testing these sub-models with a delay k = 2, we find that the optimized model is the one (or constant or trend), r = 1, k = 2. The Johansen test will be conducted from this model r = 1 with a delay k = 2. The test results are shown in the table 5.

Table 5

Results of cointegration test

	Trace test				Test Owen max value		
H_0	H_1	Trace	VC 5%	H_0	H_1	Max	VC 5%
r = 1	r ≥ 1	**37.30**	**24.31**	r = 0	r = 1	**27.52**	**17.89**
r ≤ 1	r ≥ 2	9.77	12.53	r = 1	r = 2	9.66	11.44
r ≤ 2	r ≥ 3	0.11	3.84	r = 2	r = 3	0.11	3.84

This table shows that the null hypothesis (where more) r = 0 [for the test track] or exactly r = 0 [for the maximum eigenvalue test] is rejected at the 5% threshold 1 %. This stems from the values calculated from these two statistics [37,30 for the Trace test and 27.52 for the maximum eigenvalue test]. For cons, the null hypothesis r ≤ 1 [for testing trace] or r = 1 [for the maximum eigenvalue test] cannot be rejected at the 5% and 1% for the two test statistics Johansen are below the critical values associated with them even for the null hypothesis r ≤ 2 [for testing trace] or r = 2 [for the maximum Eigenvalue test].Both Johansen co-integration tests thus confirm the existence of one cointegrating relationship.

The standard relationship:

$$Ln\ GDP = 8.365\ Ln\ EC - 7.126\ Ln\ EP$$

(11)

(17.87)

(-10.81)

The variables in parentheses represent the Student statistic. In other words, a 1% increase in energy

consumption would lead to a long-term increase of 8.3% of GDP. In contrast, a 1% increase in energy prices would reduce GDP by 7.1%.

5.3. Estimation of the model error-correction

As a reminder, the representation theorem of Engle and Granger shows that non-stationary series especially those with a unit root, must be represented as a model for error correction if they are cointegrated, that if there is a stationary linear combination therebetween. The estimation of the vector error-correction model requires the determination of the long-term relationship below:

$$\text{Ln } GDP_{-1} = 9.25 \text{ Ln } EC_{-1} - 10.25 \text{ Ln } EP_{-1} - 38.75 \quad (12)$$

$$(5, 81) \qquad (-6, 36)$$

The variables in parentheses represent the Student statistic.

This co-integrating relationship shows that the EC variable, which measures the energy consumption, has a positive relationship with economic growth (LPIB). In the long term, if the energy consumption by 1%, while economic growth follows the same trend with a percentage of 9% to ensure this cointegrating relationship, which shows the decoupling of economic growth from the energy consumption. However, when the energy price increases of1% economic growth falls by 10%. The estimated error correction model is given in the table 6.

Table 6 Result of test model error correction

Cointegrating Eq:	CointEq1
LGDP (-1)	1.000000

LEC (-1)	9.252579		
	(1.58994)		
	[5.81946]		
LEP (-1)	-10.25173		
	(1.61183)		
	[-6.36029]		
C	-38.75776		
Error Correction:	**D(LGDP)**	**D(LCE)**	**D(LPE)**
CointEq1	-0.855904	0.146937	0.005989
	(0.31207)	(0.03881)	(0.00684)
	[-2.74264]	[-3.78636]	[0.87619]
D (LGDP (-1))	-0.671399	0.117551	-0.010733
	(0.27613)	(0.03434)	(0.00605)
	[-2.43146]	[3.42341]	[-1.77446]
D (LGDP (-2))	-0.351223	0.024847	-0.009612
	(0.18404)	(0.02289)	(0.00403)
	[-1.90843]	[1.08570]	[-2.38430]
D (LEC (-1))	3.760965	0.655200	0.047532
	(2.68806)	(0.33427)	(0.05888)
	[1.39914]	[1.96012]	[0.80726]
D (LEC (-2))	0.719616	0.664031	0.041429
	(1.83939)	(0.22873)	(0.04029)
	[0.39122]	[2.90309]	[1.02824]
D (LEP (-1))	-1.833760	0.832118	0.382702
	(7.14479)	(0.88847)	(0.15650)
	[-0.25666]	[0.93657]	[2.44533]
D (LEP (-2))	5.739986	-1.062884	0.376754
	(6.76435)	(0.84116)	(0.14817)
	[0.84856]	[-1.26359]	[2.54272]
C	-0.332264	-0.000704	0.008907
	(0.33435)	(0.04158)	(0.00732)
	[-0.99376]	[-0.01693]	[1.21612]
R-squared	0.660283	0.530048	0.729341
Adj. R-squared	0.572209	0.408209	0.659171
Sum sq. resids	12.81472	0.198160	0.006149
S.E. equation	0.688926	0.085669	0.015091
F-statistic	7.496856	4.350381	10.39381
Log likelihood	-32.07966	40.88265	101.6576

Notes: Values in ( ) are the standard errors; values in [ ] are the t-statistics.

Standard errors in ( ) & t-statistics in [ ]

The first line contains the endogenous variables and the first column of the exogenous variables, the error correction term, the coefficient of determination and the Fisher statistic. The three estimated equations can be written:

- $D (Ln\ GDP) = 0.33 + 3.76D (Ln\ EC_{-1}) – 1.833 (Ln\ EP_{-1}) – 0.67D (Ln\ GDP_{-1} + 0.71D (Ln\ EC_{-2}) + 5.73D$

[-0.993] [1.399]   [-0.256]   [-2.431]   [0.391]   [0.848]

$(LEP_{-2})\quad – 0.35D (LGDP_{-2}) – 0.855Z_{t-1}$

[-1.908]   [-2.742]

- $D (Ln\ EC) = - 0.0007 + 0.11D (Ln\ GDP_{-1}) + 0.65 (Ln\ EC_{-1}) + 0.38D (Ln\ EP_{-1}) + 0.024D (Ln\ GDP_{-2}) +$

[-0.016]   [3.423]   [1.960]   [0.936]   [1.085]

$0.66D (LEC_{-2}) – 1.06D (LEP_{-2}) + 0.14Z_{t-1}$

[2.903]   [-1.263]   [-3.786]

- $D (Ln\ EP) = 0.008 – 0.01D (Ln\ GDP_{-1}) + 0.047D (Ln\ EC_{-1}) + 0.38D (Ln\ EP_{-1}) – 0.009D (Ln\ GD_{-2}) +$

[1.216]   [-1.774]   [0.807]   [2.445]   [-2.384]

$0.041D (Ln\ EC_{-2}) + 0.37D (Ln\ EP_{-2}) + 0.005Z_{t-1}$

[1.028]   [2.542]   [0.876]

The quality of the estimation of this model is good under the Fisher statistic and the coefficient of determination.

In reviewing this representation, we note that the error correction term is negative and significant in the relationship relative to GDP (first equation), thus confirming the existence of a long-term relationship between energy consumption and growth. The correction model can be validated in this case. So the equation that represents the short-term adjustments, (equation relative to GDP) is the following:

- $D (Ln\ GDP) = -0.33 + 3.76D (Ln\ EC_{-1}) – 1.833D (Ln\ EP_{-1}) – 0.67D (Ln\ GDP_{-1}) + 0.71D (Ln\ EC_{-2}) +$

[-0.993] [1.399]   [-0.256]   [-2.431]   [0.391]

$5.73D (Ln\ EP_{-2}) – 0.35D (Ln\ GDP_{-2}) – 0.855Z_{t-1}$

[0.848]   [-1.908]   [-2.742]

This correction is made by the restoring force of 85.5% remains significantly above that it is justified by the Student statistic (-2.74). Therefore when there is deviation, the system automatically comes to fix.

4.4. Granger causality test

Most studies regarding our scope were primarily designed to answer the question posed by Masih and Masih (1989): "Does economic growth precedence take over energy use, energy use or can be a stimulus Itself for economic growth through the indirect channels of effective aggregate demand and human capital, Improved efficiency and technological progress? « In other words:

- GDP is it because of the energy consumption: LEC = f (LGDP)?

- Energy consumption is it because GDP = f (LEC)?

In both cases, we added two other cases often encountered:

- The existence of bidirectional causality between GDP and energy consumption.

- The two variables are independent.

This causal relationship examined by using Granger is based on the vector error correction model. The results of this test are shown in the table 7.

Table 7
Results of Granger causality test.

Pairwise Granger Causality Tests			
H_0 : X ne cause pas Y	Obs	F-Statistic	Probability
Ln EC does not Granger Cause Ln GDP	37	9.17214	0.00074
Ln GDP does not Granger Cause Ln EC		0.77691	0.46857
Ln EP does not Granger Cause Ln GDP	37	11.6819	0.00017
Ln GDP does not Granger Cause Ln		0.20005	0.81973

EP			
Ln EP does not Granger Cause Ln EC	37	5.54199	0.00876
Ln EC does not Granger Cause Ln EP		3.32623	0.04913

From this table 7, six hypotheses were tested simultaneously, namely the causality between the three variables taken in pairs. We tested the hypothesis and to know if the power consumption does not cause economic growth and vice versa. The same assumptions have been taken between the relative energy prices and economic growth and between the relative price of energy and energy consumption.

We note that 5% threshold; the Granger test suggests, on the one hand, a two-way causal link between energy consumption and economic growth, as well as between energy consumption and price on energy. Secondly, a unidirectional relationship between the relative energy prices and economic growth. In other words, it is energy that causes economic growth and not the reverse the price.

Our result for Tunisia is compatible with the flattering idea that energy consumption has a causal effect on economic growth. It was also confirmed the findings of Stern (1993, 2000), Yang (2000) and Asafu-Adjaye (2000) obtained similar results for other countries. In addition, he rejects the neo-classical hypothesis which says that energy to a neutral effect on economic growth.

6. Conclusion and policy implications

This paper has attempted to analyze empirically the interaction between energy consumption and economic growth for Tunisia. This study has demonstrated that the causal relationship between the two variables in Tunisia is mixed or conflicting. Our empirical results using the standard Granger causality test reveal a bidirectional causal relationship between energy consumption and growth. However, based on the Johansen test, our results show also a bidirectional causality relationship between GDP and energy consumption in Tunisia. This significantly rejects the neo-classical assumption of the neutrality of the effect of energy on economic growth. As a result, energy is a limiting factor for growth in Tunisia. In fact,

any shock in energy demand can affect growth.These results are consistent with the findings of Cheng (1999) and AsafuAdjaye (2000). These imply that energy is a determinant factor of the GDP growth in Tunisia, and, therefore, a high-level of economic growth leads to a high level of energy demand and vice versa. As such, it is important to take into account their possible negative effects on economic growth in establishing energy conservation policies. Indeed, the direction of causality can help policy makers to make the most appropriate decisions on climate policy: for example, evidence of unidirectional causality from income to energy consumption could assume full compatibility between political energy conservations and policies for economic growth, since the former can be continued without limit seconds. Therefore, the Tunisian government should encourage research and development on technological innovation for energy savings. In doing so, we could simultaneously reduce environmental degrading and also enhance economic development in the Tunisian economy. In addition to that, alternative energies such as solar power and wind power should be considered because these alternative energies are more environmental friendly compare to fossil fuel.

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The Role of Training in Small Business Performance

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Executive Summary

This paper aims to shed the light on the role of training in small business success and also analyze the different training areas that are considered important to business success.

We randomly selected 300 names from the yellow pages of Damascus city in Syria however, 212 agreed to participate and met the business size criterion that limited the sample to firms with fewer than 25 employees. Our sampling strategy resulted in a response rate of 58%. Missing data resulted in a usable sample size of 174. **Training was perceived positively by owner/managers and a positive statistically significant relationship was established between training in marketing and new venture start-up and small business performance.**The results help training providers to increase the quality of the materials given by tailoring their courses in the way that meets the needs of business students, existing or potential entrepreneurs.

Introduction

Developing management skills are considered means of improving the competitiveness of businesses and the economy as a whole. Although human resource development literature has tended to focus on larger enterprises in order to develop an understanding of skills development, there is a growing awareness of the requirements of small businesses (Fuller-Love, 2006). However, it has been acknowledged that creating a healthy small business sector is crucial to every competitive economy (Panagiotakopoulos, 2011; and Mohammed, 2012). Despite the well documents contribution of small businesses to the economy in terms of employment generation, business growth is concentrated in just a few smaller firms; many SMEs fail in the first year of operation. (Ganguly, 1985). Some authors argue that for small businesses to grow successfully owners need to develop new skills (Stanworth et al., 1992). In fast growing small businesses the management team will be constantly developing and the skills needed will change (Wynarczyk et al., 1993). This means that management development and training may become more important as the business grows. Given the practical knowledge and skills owner/managers need, it is believed that they can follow two routes to improve their managerial skills. The first route is consultancy and the second route is training, which in their different ways give managers access to a wider expertise. This paper aims to shed the light on the role of training in small business success and also analyse the different training areas that are considered important to business success. Additionally, this paper will discuss the attitude of small business owners towards training. This manuscript starts by introducing some concepts about management training, small business performance, and the barriers to training. Then proceeds by describing the data collection method adopted in this study and the methodology for data analysis. Then concludes with a detailed discussion of the analyses and provides

recommendations for small business owners.

Literature Review

Management training needs in small firm sector

It would be appropriate at this stage not to confuse training with education or development in general because the above three terms differ from each other.

Management education is a relatively long period of study and generally applied to both longer-lasting and longer-term activities than 'management training. Training was, generally, defined as behaviour modification through increasing specific job knowledge and useful skills in order to perform the work more effectively (Cowling and Mailer, 1990; Armstrong, 1996; and Wexley and Latham, 1991).

Part of the problem in encouraging managers in smaller businesses to improve their managerial skills is related to the image portrayed by the training providers, who may be seen as inaccessible to smaller firms and largely irrelevant to their needs due to the misdiagnosis of their training needs. This is a problem of tailoring courses to meet the needs of particular segment of these firms, of recognising their exceptional transitional problems, and of promoting the benefits of managerial training in respect of business success. It is necessary, therefore, to assist the smaller firm to assess its management training needs, and to direct the content and delivery of training to their specific needs.

Training for the small business cluster of the market is particularly difficult to design, mainly because management is severely stretched and unable to spare the time of senior staff. In addition, since they are often owner/managers, acutely aware of the value of their time, they are reluctant to consider management

training. The issue that needs to be emphasised is that this process will help owners to think about all aspects of their business in an effective way, and to help them identify areas where they can benefit from outside expertise. As most of people, in general, start their own business due to previous experience in a particular business field, they are very well equipped to cope with the technical side of their business; what they lack is some skills or knowledge to look at the business from a strategic perspective. However, once again, it must be recognised that smaller firms may find it difficult to spare the time on one hand, and the costs of management training on the other hand (Advisory Council on Science and Technology, 1990).The tendency to engage in training clearly varies between industries (Marshall and Alderman, 1992; and Baker and Elias, 1992) and even within sectors it is likely that the needs and pressures for management training and development will vary according to the particular business conditions faced by the firm (Hendry et al., 1991)

The link between management training and business performance

Although there as widespread recognition that effective management was a key to economic growth only a small proportion of managers had received any management training (Constable and McCormick, 1987). It is argued that not only do SMEs themselves pay less attention to training, but the issue of the role of training on the performance of small firms has not been studied sufficiently as compared with other issues in management (Pettigrew et al, 1990). Several researchers did not consider training a crucial factor that may affect the performance of the firm. The reason for that was the lack of the empirical evidence that linked training and performance.   A considerable effort has, in fact, been made to indicate that very few studies in this area, whether qualitative or quantitative, can demonstrate in any robust fashion that

investment in training and development initiatives will directly lead to improved business performance (Westhead and Storey, 1996). It is noteworthy that this has serious implications for continued investment in agency support and delivery whilst questioning the validity of existing training interventions (Patton et al.2000).Several authors have already investigated the relationship between training and small business performance. The results of some of these previous studies can be summarized into four different categories as follows:

1. *No relationship between training and performance (Storey and Westhead, 1994; and Wynarczyk et al., 1993).*

2. *Weak relationship between training and performance (Storey and Westhead, 1996 & 1997; Winterton and Winterton, 1996; and Cosh et al., 1998).*

3. *Positive relationship between training and performance (Keep and Mayhew, 1997; Cannon, 1997; Breyan, 2006; and Eikebrokk and Olsen, 2009).*

4. *Training is linked to factors closely associated to performance (Birley and Westhead, 1990; Johnson and Gubbins, 1992; and Variyam and Kraybill, 1993).*

Barriers to management training

There are two general factors that provide the major barriers to management development in small businesses: time and cost (Fuller-Love, 2006). Small business owners, generally, tend to regard management training as operating expenses and raise the question of the payback on training. Small business owners, generally, do not consider training as an investment and they are more skeptical about

the benefits of training. Even for those who do consider training as an important power for change and having a potential to impact on their business performance, they may find it difficult to determine and select the appropriate type of training and development they need. In addition, there are several reasons for the lack of openness to management training and development. Authors like Stanworth and Gray (1992) and Vickerstaff(1991) stated that it is noticeable that smaller firms in particular are reluctant to engage with training initiatives regardless of the incentives offered. Westhead and Storey, (1997) and Marlow (1998) indicated that there are some critical issues which act as barriers to small firms engaging with training, namely organizational constraints such as a lack of time or finance, or ignorance of benefits of available schemes. It is crucial to know that one of the reasons many firms are so reluctant to train is that its impact on the firm is difficult to identify, and only feeds through to firm performance in the long-term.   Small firms, generally, lack the strategic vision and therefore prefer short-term projects rather than long-time projects (Marshall et al., 1995).

Monk (2000) stated that SMEs face the following issues in successfully acquiring, maintaining and applying business skills:

1. a lack of clear approach to the definition of business skills;

2. a lack of knowledge of skills required to prosper,

3. a lack of awareness for particular needs for business skills;

4. the misdiagnosis of needs or problem areas;

5. a lack of critical information about the performance impacts of investment in business skills development;

6. a lack of awareness of sources of information on skills;

7. limited time for training,

8. limited financial resources to hire professional advisors/mentors; and

9. a lack of a continuous learning philosophy.

Atiyyah(1993) explained why some Arab managers in particular may resist participation in training, which may be for a variety of reasons. Managers who acquired their skills from long experience on the job may still believe that this is the best way for preparing future managers. Others may have doubts about the effectiveness of management development Institutes; they believe that these institutes may succeed in teaching managers how to apply management principles and know-how regarding supervision, organisational structure, planning and control but they cannot turn incompetent managers into leaders. These problems cannot be solved unless the financial and manpower resources of the institutes are significantly increased and attitudes toward training become more appreciative and supportive. In his study in Jordan, Al-Faleh (1987) stated the Arab culture has certain distinctive characteristics that dominate managerial thinking and behaviour. Additionally, the effectiveness of development programmes for managers that attempt to transfer Western management techniques are questioned. The analysis indicated that the capacity of management education and training programmes have never reached a size commensurate with the country's real needs.

Methodology

We randomly selected 300 names from the yellow pages of Damascus city in Syria. We telephoned each firm in the sample and asked the owner to participate in the research; 212 agreed to do so and also met the business size criterion that limited the sample to firms with fewer than 25 employees. Our sampling strategy resulted in a response rate of 58%. Missing data resulted in a usable sample size of 174.

The first section of the questionnaire was designed to elicit demographic data. Participants were asked to indicate how well their businesses did over the last three years as whether it was declining or growing. The last section was designed to elicit data on training in several business areas and their attitudes towards future training if offered.

In this study, we used sales as an indicator of business performance and performed difference of means tests to determine if the mean scores differed based on the respondents' age, gender, education, and the kind of training he/she received. Six training areas were tested for the difference of means (new venture start-up, bookkeeping, marketing, cash management, personnel management, and computer) because it is important to determine which kind of training   produced the greatest business performance as this helps to analyze training effectiveness (Tesone, 2008).

Results and Discussion

This section describes the demographic characteristics of the sample. Ninety two percent of the respondents were men and 8 % were women. The majority of the respondents (66.7%) were between the

age of 21 and 40 and 33.3% were more than 40. The highest education level for most (53.6%) respondents was a university degree. The second highest percentage (35.75) was for those with high school educationand only 12% had less than a secondary school education. The majority of the respondents (63%) employed less than 10 employees and 37% employed between 10 and 25 employees.

The results in table 1 appendix 1 show that the majority of small business owners were trained (83.3%) prior to starting up their own business. The importance of training seems to be perceived positively by small business owners this is believed to have a positive effect on their attitudes towards future training initiatives. More specifically, 40% of respondents had training in computer skills, around 30% took training in marketing, 26% in bookkeeping, 7.4% in personnel management and another 7.4% of small business owners had training in new venture startup. The results of difference of means test in table 2 appendix 1 show that there were no statistically significant difference in means scores between male and female owners although the male owners had a mean score of 3.71 on the variable that measure business performance in sales, and female owners had a mean score of 3. The role of education in small business performance was not proved to be statistically significant and respondents with different educational background had the same mean score which was 3.66. There was a statistically significant difference in mean scores between younger owners and older owners in relation to business performance in sales. Younger owners (21-40) had a mean score of 3.87 and older owners (>40) had a mean score of 3.25. According to this result it is believed that long experience is not a pre-requisite for better business performance, but a minimum level of experience will contribute in improving business performance. Motivation to work hard is also negatively related to age. As the owner/manager accumulates wealth, this

wealth provides an income and this reduces the need for income generated from work. The older the owner/manager the greater the incentive to live off earlier investment rather than invest additional time and resource in the hope of a future pay-off. Another factor that is related to motivation is physical energy, which generally reduces with age. This means that young and middle aged owner/managers are more likely to make changes in business and bring new ideas to improve the way the business is conducted.There was a statistically significant difference in mean scores between smaller businesses (<10 employees) and bigger businesses (10-25 employees) in relation to business performance in sales. Smaller businesses had a mean score of 4.06 and bigger businesses had a mean score of 3.1. Barkham et al. (1996) stated that small enterprises achieve higher growth than big enterprises because they may be more flexible as it is easy for firms with a small number of employees and one chief decision-maker to manage effectively the business internally and react to changes in the market and exploit new opportunities. As firms grow in size, more managers need to be drawn in and more departments need to e created. This increases the complexity of organizational structure and requires an advanced integration and coordination mechanisms. Smaller firms may avoid the disadvantage of having competing interests of workers, managers and shareholders that is usually found in larger firms and therefore there is more freedom in small businesses to pursue different activities with minimum conflict. The results of comparing the difference of means test show that there was a statistically significant difference in mean scores between owners who had training and those who did not. Trained owners had a mean score of 3.86 compared with 3.35 for those owners with no training. Peacock (2000) explained the importance of training as one of the alternatives that help to improve small business management efficiency. The most

adverse result of a lack of management skills was failure, but inexperience and incompetence in management created problems and sub-optimal performance for surviving small businesses. However, it should be noted thatthe absence of training does not necessarily mean that the firm will not perform well in the market place. The firm could survive without appropriate training, but its growth potential may be restricted (Bosworth and Jacobs, 1989).Since training in general was found to be positively related to small business performance it is important to discuss further the kind of training that is related to business performance. The results of comparing the difference of means test show that out of the six training areas listed in the survey, only two of them were related to business performance. There was a statistically significant difference in mean scores between owners who had training in new venture start-up and those who did not. The mean score of 4.5 proves that owners who had training in new venture start-up performed better than owners who did not where they had a mean score of 3.6. Starting up a new business may not be difficult, but starting correctly is very important for future success. Williams (1986) stated that when there is a great amount of preparation or consultation with knowledgeable people and other important sources of information that ensure safe start up the chances of success are better. This was also supported by several authors emphasising that the development of training programs that address the business start-up process and specific goals of the individual can increase the likelihood of a new venture being successful (Gatewood, Shaver and Cartner, 1995).The other kind of training that was significantly related to business performance based on the difference of means test was training in marketing. Academics and managers have struggled for many years to understand the role of marketing in explaining business performance differences between firmswhich indicates that marketing plays an important role in

improving business performance (Morgan, 2012). The mean score of owner/managers who had training in marketing was 4.14 whereas the mean score of the other group was 3.5 indicating that training in marketing in particular plays an important role in improving business performance. If a firm does not market effectively, it will not get customers, it will not sell products or services and it will not be successful (Foley and Green, 1989).An interesting finding of this research is that the majority of trained owner/managers were more educated than untrained owner/managers. It has also been mentioned previously under the education section that education may play an important role through its indirect influence on business performance. This indicates that education has indirect impact on business performance; it certainly helps owner/managers to be more open to new practices such as training. This is consistent with Stanworth and Gray (1992) who stated that small business owners, who are attracted to management or enterprise training, tend to have a higher regard for qualifications, and enjoy higher survival and growth rates than most other small firms.

With regards to the attitude of owner/managers towards future training, 58% of respondents would like to join training courses if offered. However, owner/managers who stated that they would not join any training course had different reasons. Around 17% of respondents stated that they did not have enough time to become involved in any training programme and 13% of respondents mentioned that training courses were too expensive to join. Four per centattributed their opinion concerning training courses to the lack of trust of the training provider and the content of courses. The remaining respondents (8%) stated that they did not feel the need for any managerial training. Although some owner/managers gave different reasons for not joining training programs if offered in the future, there is a positive perception of the importance of

training to small business performance. Respondents were also asked about their preferred method of training. The results show that 42%prefer workshops, 11.5% lectures, 3.8% seminar technique, and 7.7% case study methods. The rest of respondents prefer a combination of all these methods because it satisfies both the theoretical needs for those who lack the theoretical knowledge of business life and for those who lack the necessary practical skills to manage the business in more effective way.

Conclusion

Entrepreneurs come with initiative, innovative qualities and technical expertise in a particular field of the business and then start up their own business. When they are qualified in management skills, they often spread their attention and efforts over many areas in the firm. This may affect their ability to perform adequately all the managerial functions necessary to maximise the business performance. When the business expands, the importance of upgrading their skills increases because the owner may not be able to handle all the new increased managerial demands with their current competencies.It is important for small business owners to realize that investment in management training and development can help small firms to make the organisational changes necessary to expand and grow. Despite the lack of research that found a direct link between training and small business performance, the results of this study clearly indicate that trained owners outperformed untrained owners.

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Appendix 1

Table 1: Percentages of demographic and training variables

Variable	Results
Gender	Male 92%
	Female 8%
Age	21-40 66.7%
	>40 33.3%
Education	Less than secondary school 10.7%
	High school
	35.75%
	University degree
	53.6%
Business size	<10 63%
	10-25 37%
Management Training	Yes 83.3%
	No 16.7%
Training in new	Yes 7.4%

venture	No	92.6%
Training in marketing	Yes	29.6%
	No	70.4%
Training in book-keeping	Yes	25.9%
	No	74.1%
Training in personnel	Yes	7.4%
	No	92.6%
Training in computer	Yes	40%
	No	60%
Training in cash management	Yes	0%
	No	100%
Future Training	I wish to participate in a training program 57.7% I don't need any managerial training 7.7% I don't have enough time for training program 15.4% Training courses are too expensive to join 11.5%	

	I don't trust available training program providers 7.7%

Table 2: Mean score of demographic and training variables

Variable		Mean	SD
Gender	Male	3.71	1.2
	Female	3.00	.00
*Age	21-40	3.87	.86
	>40	3.25	1.49
Education	Less than secondary school	3.66	.48
	High school education	3.66	1.06
	University degree	3.69	1.27
*Business Size	<10	4.06	.93
	10--25	3.1	1.14
Management Training	Yes	3.86	.922
	No	3.35	1.44
*Training in new venture	Yes	4.5	.51
	No	3.6	1.13
*Training in marketing	Yes	4.14	.35

	No	3.5	1.26
Training in book-keeping	Yes	3.83	.69
	No	3.63	1.22
Training in personnel management	Yes	3.5	.51
	No	3.69	1.16
Training in computer	Yes	3.14	1.47
	No	3.91	1.04
Training in cash management	Yes	0	
	No	3.68	1.12

FDI IMPACT ON ECONOMIC GROWTH IN THE FRAMEWORK OF

ARDL: EVIDENCE FROM PAKISTAN

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ABSTRACT

In this research study, the impact of foreign direct investment on economic performance is reconsidered for Pakistan using data for the period of 1973-2012. Previous empirical studies ignore the long time spine and application of modernize co-integration. To illustrate the issue, we in this paper estimated the classic growth regression model whereas FDI added an extra explanatory variable and used the annual data series and ARDL approach of co-integration. The aim is to get and construe newest estimates of the responsiveness of gross domestic production to labor force, domestic investment and FDI. According to the results using Augmented Dickey Fuller and Phillips-Perron tests all series are stationary at integrated first order. Further, the evidence support the existence of long run relationship among the variable as GDP is dependent variable. The long run analysis indicates positive and significant role for all three regressors in the regression model. The results are that, the GDP is found highly labor force elastic and domestic investment inelastic, FDI is found to have statistically significant and positive impact on the level of gross domestic production in both long and short run.

Keywords: FDI, Gross Domestic Production, ARDL, Pakistan,

1. INTRODUCTION

Foreign Direct Investment (FDI) is an open economy macroeconomic variable. In a close economy where the individual or government does not interact for economic purpose across the border, investment is financed solely from domestic saving either private or government. However, in open economy investment is financed both through domestic savings and foreign capital flows, where capital flows includes for FDI. It is substantially in contrast of the indirect investment i.e. investment in portfolio flows, wherein foreigners invest in equities listed on a nation's stock exchange.

FDI got popularity in economic literatures mostly after 1980 and is mostly considered the growth enhancing factor. Since, to attract larger share of FDI many countries not only changed their regulations but also offered tax incentives and subsidies. It is believed that the economic rationale behind offering the special incentives to invite FDI is that the direct investment made by the foreigner produces externalities in the form of technology transfer and spillovers (Damooeei and Tavakoli, 2006). Furthermore, saving-investment gap is the classic problem usually have the developing countries and foreign investment in real goods influences the process of economic growth by filling up this gap through increasing productivity, transferring technology, more employment creation and increasing competition (Kobrin, 2005; & Le and Ataullah, 2006).

Based on the latest data compiled by the State Bank of Pakistan (see Handbook of Statistic 2010), the flow of net FDI not only increased over time in developing countries Pakistan and India but also increased in developed countries of the world i.e. US and UK. FDI inflow to India increased from US$236 million in 1990 to US$34577 million in 2009. A similar upward trend has shown in FDI of United State (from US$67736 million in 1990 to US$134710 million in 2009) and UK (from US$33046 million in 1990 to US$72920 million in 2009). There is also on average growing trend from 1990s to 2000s in Pakistan, the country which is chosen for this study. The Pakistan' FDI increased on average from –US$475.5 million in 1990s to US$2281.6 million in the decade of 2000s.

Though, the political instability, unorganized law and order situation, undeveloped economic environment, instability in stock market and regulatory regime made unpleasant the foreigner to invest in Pakistan. Instead various factor made Pakistan an attractive place for foreign investment. For instance, the 180 million population of the country provide a large market for consumer goods and provision of low-cost labor to the investors as well as adequate physical infrastructure which are essential for investment (Yousal et al. 2008).

In an effort to scrutinize for the effects of foreign direct investment on economic growth our research paper's country focus is Pakistan. Used annual data and employ the econometric approach of co-integration. In total, the sample covers 40 observations where data choice is from 1973-2012. Objective of the study is to investigate in long run for the impact of FDI on the level of gross domestic production in Pakistan. Rest of this research article is classified as: Section-II is about relevant literature

studies; Section-III discusses the model and data sources of variables; Section-IV is the empirical methodology and Section-V is the empirical findings which represents the study findings and discussions. Finally, Section-VI is conclusion in which we conclude the analysis.

2. LITERATURE REVIEW

The FDI's role in regression of production function is discussed by too many research studies. However, since 1980 the majority of this research work focuses on the nexus between growth and FDI in developing countries. Some of these studies have been critically reviewed to investigate for the relationship between economic growth and foreign direct investment in the context of Pakistan. For inclusive understanding here review some research studies that were constrained to the nexus between economic growth and foreign direct investment.

However in prior must know that Solow (1956) was of the view that population and technological change are factors that increases production only in long run, while if foreigner's invest in physical capital of host country positively influences technology then it will be growth advancing. Somwaru and Makki (2004) point out that as per endogenous growth model, the foreign direct investment can be considered growth enhancing factor only if it results in increasing returns in production through spillover and technological transfers via diffusion processes. Furthermore, Balasubramanyam et. al. (1996) tested and finds out that foreign investment in exports promoting sector in countries like India furnish greater benefit than foreign investment in other sectors of the country. They have used the basic production function and included for FDI in additional to the factor of production i.e. domestic capital and labor. It is asserted that FDI contributes to the developing countries in form of human capital accumulation and provision of new technology, and FDI captures such externalities as learning by doing and different spillover effects.

Roy and Berg (2006) tested for the role of FDI flows in the growth model of the U.S. economy, using time-series data covering the period 1970-2001. In a simultaneous-equation model (SEM), they obviously captured the bi-directional relationship between FDI and U.S. economic growth. FDI is found to have a positive and statistically important impact on the U.S. economic growth. Also, their results from simultaneous equation reveal that FDI growth is income inelastic.

Adam and Tweneboah (2009), economist from Ghana examine the behavior of FDI in growth model of Ghana for the period of 1991-2006. The study findings reflect that FDI positively promote the economic development of the country. Another important study conducted by Abbas *et al.* (2011), the objective was to investigate for the effects of FDI on the level of gross domestic production of SAARC member countries. They found that the growth model form the significant positive association between FDI and output level of the countries. Recently, using data for the year 1991 to 2011 and employed co-integration technique, Ray (2012) also found positive support that FDI enhance economic growth in long run in case of India.

Conflictingly, Hanson (2001) in survey of literatures argues that in empirical evidence the foreigner's investment generates a positive spillover for host countries is weak. In a review of micro data on

spillovers from foreign-owned to domestically owned firms, Gorg and Greenwood (2002) conclude that the effects are mostly negative. Similarly, Agarwal (2000) in his study for South Asian countries (includes Bangladesh, India, Nepal, Pakistan and Sri Lanka) provides evidence to belief that the influence of FDI on GDP was negative till the year 1980. Post 1980, the link was mildly positive and then bolstered over the years after late eighties. Also Lipsey (2002) on basis of the macro empirical research concluded that the size of FDI inflow relative to the gross domestic production and growth have no consistent association.

Moreover, the researchers also have investigated for the relationship between growth and FDI in experience of Pakistan. As, Ahmed, et al. (2003) examined the causal relationship between FDI, exports and output by employing Granger non-causality procedure over the period 1972 to 2001 in Pakistan. They found significant effect from FDI to domestic output. Atique et al. (2004) found that the FDI to influence output level tends to be greater under an export promotion trade regime rather than an import substitution regime. Yousaf et al. (2008) also estimated for the long run effects of FDI on economic growth in case of Pakistan. They examined for the nexus between two by applying co-integration technique. In results found that FDI increases export more than imports in long run and hence stimulate economic growth.

Gudaro et al. (2010) estimated for the impact of FDI on economic growth using thirty observations covering the period of 1981-2010. According to their results foreign direct investment and economic growth in Pakistan during the period has positive and significant association. Recently, Ahmed et al. (2012) also carried out study to investigate the relationship between foreign direct investment and economic growth in Pakistan. The study used for analysis an annual data and the econometric techniques of co-integration and error correction model. Gross domestic product is taken as dependent and FDI, labor force and domestic capital independent variables. The study finding suggests that there is a positive relation between foreign direct investment and gross domestic production in short as well as long run. Further suggests, to make economic progress then we should have to invite foreign investors because increase in foreign direct investment will increases gross domestic production and that in turn economic growth of the country.

3. MODEL AND DATA SOURCE

As obvious from introduction, our aim in this research study is to quantify for the impact of foreign direct investment on economic growth in Pakistan. In order to achieve the desire objectives two other explanatory variables i.e. domestic physical capital and labor force were added which are assumed to influence the economic growth in literature and are the basic determinants of growth model (Solow, 1956). Have expectation that in extended model the inclusion of labor force and physical capital may reduce the specification error. Thus, the study used the econometric model as given:

$$Y_t = C + \beta_0 LF_t + \beta_1 PK_t + \beta_2 FDI_t + \mu_t \qquad (1)$$

Where, Y is output level or gross domestic production, LF is labor force, PK is physical capital/domestic

investment equivalent to the gross fixed capital formation, FDI is foreign direct investment, μ is the error term, different betas' (β_0, β_1, & β_2) are the coefficients of variables, t is time trend and C is constant.

Now after taking log of variables at both sides, we have finally a log-linear specification for estimation of the form:

$$lnY = C + \beta_0 lnLF_t + \beta_1 lnPK_t + \beta_2 lnFDI_t + \mu_t \qquad (2)$$

In equation (2) variables are in natural logarithm, where *ln* stand for natural logarithm.

For the included variables in growth model of equation (2), the annual data is used for the period of 1973 to 2012, and the data are majorly collected from the following data sources:

1) Pakistan Economic Survey

2) Handbook of Statistics, October 2010, SBP

All variables are in nominal term and in millions. The gross domestic production at market prices is used for output level and the gross fixed capital formation for physical capital or domestic investment. Data for GDP and LF is obtained from Economic Survey (various issues) of Pakistan. However, for PK and FDI data for the period of 1973-2010 is taken from 'Handbook of Statistic' and for the remaining year is from Economic Survey. The data for FDI was in million of US\$ but converted into millions of rupees.

4. EMPIRICAL METHODOLOGY

The selective regression model of the study is of time series type. Therefore, the application of unit root and co-integration are central to the analysis. In foremost, the individual series are tested for unit roots using the Augmented Dickey Fuller (ADF) and Phillips-Perron (PP) tests. The ADF test has been explored at length in the literature. For a complete understanding of the procedure see Gujarati (2007) and Ray (2012). Also our study test unit root against the series using PP test. The test was developed by Phillips and Perron (1988) and its application is abundantly available in literature. Both the tests of unit root assume the null hypothesis of unit root against the alternative hypothesis of no unit root. If estimate of the test reject significantly null hypothesis and accept the alternative of no unit root, the series would be considered stationary. The stationary series means that the mean, variance and co-variance of the series are independent of time or remains constant.

Many approaches, for instance the Engle Granger (1987), Johansen and Juselius (1990) and Pesaran et al. (2001) help us to investigate for long run relationship between FDI and the level of domestic output. However, our study prefers the use of autoregressive distributed lag (ARDL) or bound testing approach. The method is developed and properly discussed by Pesaran et al. (2001). The use of ARDL is more suitable in small sample case and applicable even when some variable are I (1) and other I (0) or mutually integrated (see in Dritsakis, 2011).

Under bound test, it is essential for co-integration decision to apply the Wald restriction on specified model. In our study case, the selective model can be derived from the general unrestricted error correction

representation of the ARDL as given:

$$\Delta lnY_t = c + \sum_{i=1}^{m} \beta_{0i}\Delta lnY_{t-i} + \sum_{i=0}^{n} \beta_{1i}\,\Delta lnLF_{t-i} + \sum_{i=0}^{o} \beta_{2i}\Delta lnPK_{t-i} + \sum_{i=0}^{p} \beta_{3i}\Delta lnFDI_{t-i} + \delta_1 lnY_{t-1}$$

$$+ \delta_2 lnLF_{t-1} + \delta_3 lnPK_{t-1} + \delta_4 lnFDI_{t-1} + \mu_t \qquad (4)$$

Where, Δ is used for difference, i identify the number of lags, and t-1 denotes the first lag of variable at level. The investigation of co-integration in model actually based on F-statistic/Wald Test, where the test assumes the hypothesis of no co-integration against co-integration as given:

$H_0 = \delta_1 = \delta_2 = \delta_3 = \delta_4 = 0$ (there is no co-integration among the variables)

$H_0 \neq \delta_1 \neq \delta_2 \neq \delta_3 \neq \delta_4 \neq 0$ (there is co-integration among the variables)

Also, two set of critical values are generated by Pesaran et al. (2001) i.e. upper and lower bound critical values. If the F-computed exceeds the upper critical bound, then the H_o will be rejected and the results would confirm for long run relationship. The alternative case would then support the no co-integration. Hence beyond the confirmation of co-integration in regression model, the second stage of ARDL approach is to estimate the long run parameters of the growth model of the study. To estimate the long run coefficient, general form of ARDL for equation (2) is given as:

$$lnY_t = c + \sum_{i=1}^{m} \alpha_i \, lnY_{t-i} + \sum_{i=0}^{n} \beta_i \, lnLF_{t-i} + \sum_{i=0}^{o} \sigma_i \, lnPK_{t-i} + \sum_{i=0}^{p} \varphi_i \, lnFDI_{t-i} + \epsilon_t \quad (5)$$

Finally, the interrelated error correction model of ARDL is used to assess for the short run dynamics alongside the long run information. However, one should note that the identification of lags length is common problem in all cases. Therefore the appropriate lag length selection is fulfilled by using the Schwarz Bayesian Criteria (SBC) in both cases.

5. EMPIRICAL FINDINGS

5.1.Unit Root Results – Unit root analysis is primary step of estimation used for testing the time series properties of data i.e. to find the order of integration or differentiate between stationary and non stationary variable. For this purpose, using the Augmented Dickey Fuller (ADF) test and Phillips-Perron (PP) test the null hypothesis of unit root (non stationary of the variable) is analyzed against the alternative hypothesis of no unit root. A rejection of the null hypothesis suggests the variables are stationary. Table 2 represents the results of ADF and PP tests at level and at first differences for all variables used in this study empirical analysis.

Table-2 reports the ADF and PP test results at level and at first differences for the data series of (GDP, LF, PK, FDI) and both the tests confirmed that every series is non stationary at level excepting domestic capital i.e. stationary at I (0) order at 10 percent level of significance, when we use only ADF test. However, after taking first differences of the variables all become stationary at 1 percent level of

significance in both cases either using ADF test or PP test. Thus, it is obvious that all variables are integrated zero order at first differences or become stationary when we take first differences of the variables.

Table 2: ADF and PP Test Results for Order of Integration at Level and 1st Differences

ADF Test Results				
Variables in log	at level		at 1st difference	
	test-statistic	p-values	test-statistic	p-values
GDP	-0.9339	0.7667	-5.7477*	0.0000
LF	0.0834	0.9604	-5.3979*	0.0001
PK	-2.8774***	0.0572	-3.9789*	0.0038
FDI	-2.4803	0.1301	-3.9899*	0.0041
PP Test Results				
GDP	-0.8858	0.7822	-5.7702*	0.0000
LF	0.0594	0.9583	-5.3837*	0.0001
PK	-2.4748	0.1292	-3.8454*	0.0055
FDI	-0.7515	0.8215	-10.4326*	0.0000

*Note: Under both the ADF and PP test, it is null hypothesis that each variable have a unit root. The *, and *** represents the 1 percent and 10 percent level of significance.*

5.2. Co-integration Results: In this section of the study, we present the nexus between economic growth and foreign direct investment in term of ARDL technique. First, for the assessment of long run relationship in the multiple regression model of the study, apply the unrestricted error correction version of the autoregressive distributed lag model where the general form of the model is in equation (4). The lag length specification is an important for estimating equation (4). Therefore, using the general to specific approach SBC suggests the maximum lag length of 1. Bases on SBC the selected unrestricted error correction model is of the form ARDL (0, 1, 0, 0) and the Wald-test statistic or calculated F-statistic for the selected model is tabulated with upper and lower bound critical values in Table 3.

In our case GDP is the dependent variable, the value of computed F-statistics is 11.27, which is above the upper bound critical value of 7.007 at 1 percent level of significance. Therefore, it is concluded that there is an apparent co-integration vector because the results reject the null hypothesis of no co-integration and accept the alternative hypothesis of co-integration. Moreover, reveals a long run relationship between labor force, domestic capital, foreign direct investment and gross domestic production in Pakistan.

Table 3: Wald Test Restriction Imposed on Parameters

Based on ARDL regression of DlnY on: $\beta_{10}\Delta lnLF$ $\beta_{11}\Delta lnLF(-1)$ $\beta_2\Delta lnPK$ l $\beta_3\Delta nFDI$ c $\delta_1 lnY(-1)$ $\delta_2 lnLF(-1)$ $\delta_3 lnPK(-1)$ $\delta_4 lnFDI(-1)$ *List of restriction for the Wald Test: $\delta_1 + \delta_2 + \delta_3 + \delta_4 = 0$*	
Computed F-statistic	**11.2779 (.001)**
Upper Bound Critical Values at 1 %	7.007
Upper Bound Critical Values at 5 %	4.960

Note: The critical values are from the study of Narayan (2005). The value in parenthesis is p-value or probability.

Having determined that gross domestic production and its regressors are co-integrated, consequently in further estimate for the long run estimate or the impact of foreign direct investment and other variable on economic performance of the country using the general long run ARDL model (see in equation 5). The general to specific long run ARDL is selected using the Schwartz Criteria' and the estimated long run coefficients are provided in Table 4.

Table 4: Estimated Long Run Coefficients using the ARDL Technique, ARDL (1,2,0,1)

Dependent Variable is lnGDP			
Independent Variable (in ln)	*Coefficient*	*T-Statistic*	*P-value*
C	0.842	0.5806	0.402
LF	2.498*	3.9735	0.000
PK	0.333**	2.1663	0.038
FDI	0.115**	2.1060	0.044
R-square	0.98		
Serial Correlation (F-version)	0.0185 [0.893]		
Hetroscedasticit (F-version)	0.333 [0.567]		

*Note: ** and * represent the 5 percent and 1 percent level of significance respectively. The bracket values are p-values of the respective F-statistic of the diagnostic test.*

Looking at the results in table 4 reveals that in long run the labor force, domestic investment and FDI affects the level of GDP positively and significantly in Pakistan. Specifically, 1 percent change in foreign direct investment leads to about 0.1 percent changes in the gross domestic production of the country where this variation is positively related and statistically significant at the 5 percent level of significance. Moreover, 1 percent changes in domestic investment leads to raise the GDP by 0.33 percent. The variation in domestic investment and GDP is also positively related and statistically significant at 5

percent level of significance. The value of labor force coefficient is very large and reveals that GDP is highly responsive to the labor force of the country. If 1 percent change in labor force occurs, it will bring about 2.38 percent changes in the level of GDP. This variation between labor force and GDP is positive and significant at 5 percent level of significance. The R-square indicates that the variation in GDP is explained 98 percent by the explanatory variables of the model. Finally, the diagnostic test did not reveal for the problem of serial correlation and hetroscedasticity in the model.

5.3. Error Correction Model Results: The long run analysis does not capture the short run dynamic results. Thus, it is essential to estimate the error correction model (ECM) that gives the short run dynamic results and information about the error correction term. Based on long run ARDL, a parsimonious ECM is derived and the results are reported in Table 5.

Table 5: The Results of ECM based on the Selected Long Run ARDL

Dependent Variable is difference of GDP = ΔGDP			
Independent Variable (in ln)	*Coefficient*	*T-statistic*	*P-value*
C	0.2057	0.8796	0.386
ΔLF	-0.1457	-0.3817	0.705
ΔLF (-1)	-1.0341	-2.5429	0.016
ΔPK	0.0814	1.8023	0.081
ΔFDI (-1)	0.0280	2.1300	0.041
ECT_{t-1}	-0.2442	-4.2794	0.000

In short run dynamics, the respective variables coefficients have the expected signs and significant, excepting the labor force estimates. In short run the labor force coefficients has the negative signs and insignificant at level while significant at the first lagged of the difference. FDI estimate is again significant at 5 % level of significant but this time the effect is very small on the level of gross domestic production. In ECM, more interesting is the coefficient of error correction term (ECT) i.e. negative and statistically significant at the 1 % level of significance. The ECT coefficient of value -0.24 again supports the long run relationship among the variables in growth regression and suggests that the deviation in short run return to its long run equilibrium with speed of 24 percent annually that is low.

6. CONCLUSION

This study attempts to assess empirically, the long run relationship between foreign direct investment and the level of gross domestic production in Pakistan using annual data over the period of 1973 to 2012. Simply the standard production function is extended by including the variable for foreign direct investment. The unit root properties of the data were examined using the Augmented Dickey Fuller (ADF) test and Phillips-Perron (PP) test. The Autoregressive Distributed Lag (ARDL) approach was used to examine for the long run relationship and interrelated error correction representation. The major findings of the study are illustrated below.

We found that all variables of the study are integrated first order at level i.e. I (1) and integrated zero order after taking first differences. It means that the included variables in model of the study are non stationary at level and stationary after first difference. Further find evidence of co-integration when regressed GDP of the country on labor force, domestic investment and FDI. Labor force was found the major determinant of gross domestic production and domestic investment the chasing one. With concern to FDI, the results have shown that not only in long run but also in short run the inflow of FDI's increases GDP positively and significantly in Pakistan. Thus, the results indicate that FDI contribute positively to the level of gross domestic production of the country. Though, the impact is smaller for the observing period of the study. The government should have to make policies for attracting FDI in order to make it more growth enhancing.

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THE INFLUENCE OF ECOTOURISM DEVELOPMENT OF JATILUWIH VILLAGE IN TABANAN REGENCY OF BALI PROVINCE TO THE DEVELOPMENT OF   ECONOMY, SOCIAL CULTURE AND ENVIRONMENT

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ABSTRACT

This research aims at examining the development of ecotourism in Jatiluwih village based on its potentcy, challenges , and development. It also discusses the impacts of ecotourism development. The development in this village was analyzed by assessing the opinions of the respondents on the conformity of development covering the ecotourism development criteria such as conservation principles, principles of education, economic principles and the principle of participation . Meanwhile the impact was analyzed from respondents' assessment concerning the impact on economic development, social, cultural and environmental.

This research   used two types of data namely primary data and secondary data. The data were collected through observation, interviews, questionnaires and documentation. The data were then tabulated and analyzed in quantitative analysis with SPSS program to draw a conclusion.

The results showed that the development of ecotourism in Jatiluwih village is supported by the potency found in the village like the main attraction, the beautiful teracering scenery, terraced rice fields in the hilly areas along the river perfected with panoramic views of mountains, forests, fresh air, a regular irrigation system, water control system which is traditionally managed by the community. The establishment of natural tourist attraction is also supported by social and cultural life of society that is rich with customs, arts and culture, the existence of local knowledge passed down from generation to generation, hospitality as well as participation of all components of society to support ecotourism

development. The amazing potential and conditions of this village has been listed as World Heritage nomination or called as Warisan Budaya Dunia (WBD) at UNESCO.

In general, Jatiluwih ecotourism development is established in accordance with the principles of ecotourism development as formulated by Environmental Impact Management Agency with a high conformity category and with the principles of conservation, education and participatory principles. Meanwhile, for the economic principles, it includes the category of moderate level of conformity. Ecotourism development in Jatiluwih village has highly positive influence on economy, social, cultural and environmental development for the community of Jatiluwih village. For the effect on economicy, the ecotourism development includes in the category of moderate level of influence.

Based on the results of this reseach , it is recommended that the managers of the ecotourism in Jatiluwlih village continue the development of ecotourism because it has given positive impact in accordance with the principles of ecotourism and provide economic, social, cultural and environmental.

Considering the low impact of economy, it is suggested that the establishment of Jatiluwih ecotourism should be supported with the effort of developing appropriate programs for community empowerment. For Tabanan regency government, it is recommended that the government should perform more intensive monitoring programs, especially for the improvement of tourism human resources in the Jatiluwih village.

Key words: ecotourism, sustainable tourism, conservation, social, cultural, economic.

INTRODUCTION

A. Background

Tourism sector plays a dominant role in the people's economy of Bali Province because the elements of Bali's economy are dominated by tourism. However, the imbalance is still found in tourism development and they need attention more seriously. The the imbalance is; development of tourism regions that is still not equally done, management system that is not in line with the people's empowerment and lack of attention to environment preservation.

To harmonize the development of agriculture with tourism, farmers' participation,with their farming ecosystems, have to be improved through nature-based tourism development or commonly known as ecotourism.

Tabanan Regency is an agricultural regency whose economy is dominated by agriculture sector. Tabanan that is known as Bali's rice producer has fertile land and beautiful green panorama. Its paddy fields stretch from the foot of Batukaru Mount in the North to Indian Ocean beach in the South. Nearly

80% foreign tourists and 70 % local tourists told that farming activities especially planting vegetables and paddies were exciting ones, and 97% foreign tourists and 86% local tourists stated that subak were very intersting to them.

One of the ecotourisms developed in Tabanan Regency is Jatiluwih Ecotourism which is located in Jatiluwih Village – Penebel subdistrict. Jatiluwih Ecotourism is a natural tourist attraction with its stunning terrraced green paddy fields and the terraced rice fields along river bank, mountain view, forest and cool weather. It also has Subak irrigation system which is traditionally well-managed by the people of Jatiluwih. Jatiluwih ecotourism with its subak system and Pura Ulun Tamblingan Lake has been proposed by the Government as a world heritage.

Jatiluwih Ecotourism is a very potential tourist attraction to develop because it is an environmentally friendly tourism industry and balance environmental values are the main concern of its development. This environment utilization for tourism is becoming more popular because   people want to enjoy something natural, beautiful and sustainable.

Ecotourism development should be able to generate the people's economy, absorb man power, create more job opportunities, increase the people's prosperity, and benefit the environment preservation efforts and the people's social culture. This is to be in accordance with the principles of sustainable tourism development which say that it aims to preserve traditional agriculture patterns, realize all forms of tourism that can give as many benefits as possible to the region where it is developed, create more job opportunities to the people living around it and keep the indentity of local community by preserving its culture (Tugba KIPER *et all*, 2011).

B. Problems

Based on the background mentioned above, the problems are:

1. What is the pattern of ecotourism development in Jatiluwih Village Penebel subdistrict, Tabanan Regency?

2. How relevant is the management of Jatiluwih Ecotourism with the criteria of ecotourism principles?

3. How significant is the influence of ecotourism development on the people's economy, social culture and environment in Jatiluwih Village?

C. Objective

This study aims to know and analyze the pattern of ecotourism development in Jatiluwih Village. There are three sub-objectives in this paper:

a. To identify the pattern of Jatiluwih ecotourism development.

b. To identify the relevance level of Jatiluwih ecotourism development with the criteria and the principles of ecotourism

c. To identify how influential Jatiluwih ecotourism development is on the people's economy, social culture and environment in Jatiluwih Village.

Theoretical Framework

A. Ecotourism Development

The ecotourism development is motivated by some factors such as care, responsibility and commitment to sustainable environment and people's prosperity improvement. This motivation is encouraged by the continuous environmental degradation that is caused by exploitative development toward natural resources. Tourism needs good, healthy and sustainable environment, and this cannot be realized without the local people's involvement.

The local people will actively participate if they get financial benefit from sustainable environment. Tourits (particularly ecotourists) who visit natural places give alternative job opportunities to the local people to earn extra income by working as tour guides, porters, opening homestay, opening ecolodge, opening food stalls and some others that are related with ecotourism. This can hopefully improve the people's life quality materially, spiritually, culturally and intellectually. Ecotourism is a tourism concept that is eco friendly and puts balanced and peserved environment in its first priority.

Generally, ecotourism development must be able to improve the quality of human relationship with other human, improve the life quality of local people and maintain the quality of environment. Ecotourism development is significantly influenced by the elements that are actually found in the development itself, which are:

a. Natural resources, historical heritage and culture.

b. Community, knowledge about environment and culture, and the attractiveness of tourism region that is owned by the people.

c. Education, ecotourism improve the awareness and appreciation to nature, peninggalan sejarah values and culture.

d. Market, international and national demands on ecotourism tend to increase.

e. Economy, ecotourism gives users, government and local people opportunities to get benefit through non-extractive activities so that certain regions' economy can be better.

f. Institution, ecotourism development was pionered by Non Government Organization and volunteers for community service and environment. This is mainly motivated by commitment to environment preservation, economy development and sustainable community empowerment.

B. Principles and Criteria of Ecotourism Development

According to Environmental Impact Managemen Agency (2001) there are four principles of ecotourism management, which are:

1. Conservation Principle

a. Biodiversity utilization does not harm natural resources.

b. Theecotourism which is developed must be eco-friendly.

c. The ecotourism can be a capital resource that is able to fund conservation programs.

d. The ecotourism can continuously make use of local resources, significantly encourage private sectors to take parts in conservation programs, and support the efforts for species conservation.

2. Education Principle

328

Improve people's awareness and change people's attitude toward the necessary efforts to conserve bio natural resources and its ecosystem.

3. Economy Principle

a. The ecotourism can give financial benefit to the area managers and the local people.

b. The ecotourism can trigger local, regional and national development.

c. The ecotourism can guarantee continuous business.

d. Economy effects must be perceived in Regency/city, Province and Nation.

4. People's active role

a. Build partnerships with the local people.

b. Involve local people from planning until implementing, monitoring and evaluating.

c. Generate people's initiative and aspiration for ecotourism development.

d. Put local wisdom and distinctive characteristics to avoid interests conflicts with local social culture.

e. Provide as many business and job opportunities as possible for the people surrounding the tourist attraction area.

f. Provide accurate information about the site potency for visitors.

g. Provide opportnities to enjoy the ecotourism that has conserving funtion.

h. Understand the ethics of being a tourist and participate in environment conservation.

i. Give comfort and security to visitors.

j. Increase the income of local people.

C. Impacts of Ecotourism Development

Ecotourism development will generally give impacts the people living around the developed site. It will give positive impacts and negative impacts. Tourism development generally impacts on three aspects – economy, social culture and environment.

1. Impacts on Economy

The impacts of tourism on economy are usually reviewed from what is called multiplier effect, which are the impacts caused by tourism activities that generate other economy sectors at simultaneously. The impacts are among other things; more job opportunities, increased industries such as handicraft, food, rentals, increased demand on local agriculture produces, etc.

2. Impacts on Social Culture

Interaction between tourists and the environment and the community is not only physical but also affecting the people's social culture. The impacts can be positive or negative. The positive impacts of ecotourism development on social culture are for example re-activation of various local art, more stable community social organization, improved attention to cultural heritage, etc, while the negative impacts on local culture are theft, falsification of cultural art work, exploitation of cultural conservation and religion, free lifestyle, sex and illegal drugs.

3. Impacts on Environment

Tourism development, if developed well, will give positive impacts to environment, otherwise, it will give negative impacts on environment.

The negative impacts are among other things air, water and soil pollution, deforestation, land conversion and over infrastructure development. Pollution is the main problem to tourism but it is ironically one of the main causes of pollution. The more successful tourism in one place the bigger the pollution. The more tourists who visit one tourist attraction the more garbage produced. The positive impacts of ecotourism are for example; the improved awareness of the local people and the tourists of keeping environment in good condition, and the improved attention to cultural heritage.

D.   Ecotourism in Jatiluwih Village

Based on the map of land use management which was made by Jatiluwih Village, the village is 1,813.02 hectares most of which is 1,056-hectare forest – it covers 58.24% of the village area. The rest are dry fields 390 hectares or 21.51 %, rice fields 303.40 hectares or 16.73%, housings 24 hectares or 1.32%, public buildings, etc. Jatiluwih Village is located 26 kilometers North of Tabanan or 47 kilometers Northwest of Bali Province Capital, Denpasar.

1. Potency of Ecotourism in Jatiluwih Village

A. Ecological Potency

1) Mountain Landscape

Jatiluwih Village, Penebel sub Regency, Tabanan Regency is a highland located 500-750 above sea level. This village is located on the slope of Batukaru Mountain with the temperature between 24°C - 32°C. Jatiluwih Village has the scenery of the mountains, stretching from the West to the East, from Batukaru mountains, Sempayang Hill, Adeng Hill, Pucuk Hill, Lesung Hill and Naga Loka Hill to the border area with Buleleng Regency.

2) Rice Fields

Terraced rice fields are the main potency of Jatiluwih ecotourism. This village has beautiful view of green and terraced rice fields, the block of a rice field along the river bank combined with beautiful panorama of mountains and forest, cool air, and subak irrigation system that is traditionally managed well by the villagers.

3) Forest

The forest located in the North of Jatiluwih Village is a mountain forest strecthing from the West – Batukaru Mountains, Sempayang Hill, Adeng Hill, Pucuk Hill, Nagaloka Hill – to the border of Buleleng Regency.

4) River and Water Fall

There are two rivers in Jatiluwih Village –   Yeh Baat River and Yeh Ho River – that flow from village upstream (hulu desa) (the springs in Mountains area). In the middle of the forest where River Ho flows, there is a water fall which is potential to be developed as a tourist attraction.

5) Plantation

The plantation area in Jatiluwih Village is as wide as 56 hectares consisting of coffee plantation, vanilla plantation, and clove plantation.

B. Social Culture Potency

1. Subak Jatiluwih as Natural Resources Conservation Area and Social Culture Area.

Subak area in Jatiluwih Ecoutourism cannot be seperated from the area that formed it, which are rice fields, plantation, mountain forest and social culture area. Subak in Jatiluwih Village has 303-hectare rice field, which consists of three areas – Subak Gunung Sari (in the North), Subak Jatiluwih (in the centre) and Subak Kedamean (in the South).

2. *Pekraman* Village

Jatiluwih village consists of   two *pekraman v*illages, Jatiluwih *pekraman* village and Gunung Sari *pekraman* village. Jatiluwih *pekraman* Village consists of five *Banjars*; Banjar Jatiluwih Kangin, Banjar Jatiluwih Kawan, Banjar Kesambahan Kaja, Banjar Kesambahan Kelod and Banjar Kesambi.

3. Pura

Another important social culture potency is the existence of some Temples (Pura) which are praised by Jatiluwih villagers. They are Pura Luhur Petali, Pura Bujangga, Pura Rsi and Pura Taksu.

4. Human Resource Potency.

According to monography data 2009, the population of Jatiluwih village is 2,684 people that consists of male population 1,289, female population 1,395, and 804 families. 100% of Jatiluwih villagers are Hindus.

E.   Research Hypotheses

The proposed hypotheses in this study are as follows:

1. Jatiluwih Ecotourism development which is in line with the principles and criteria of ecotourism.

2. Jatiluwih Ecotourism develoment have impacts on social economy, culture and environment of Jatiluwih villagers.

F. Research Concept Framework

Jatiluwih ecotourism development has impacts on Jatiluwih villagers. It is in accordance with the principles and criteria of ecotourism and positively affects the social economy, culture and environment of Jatiluwih villagers. These positive impacts can lead to sustainable tourism.

G.   Research Framework
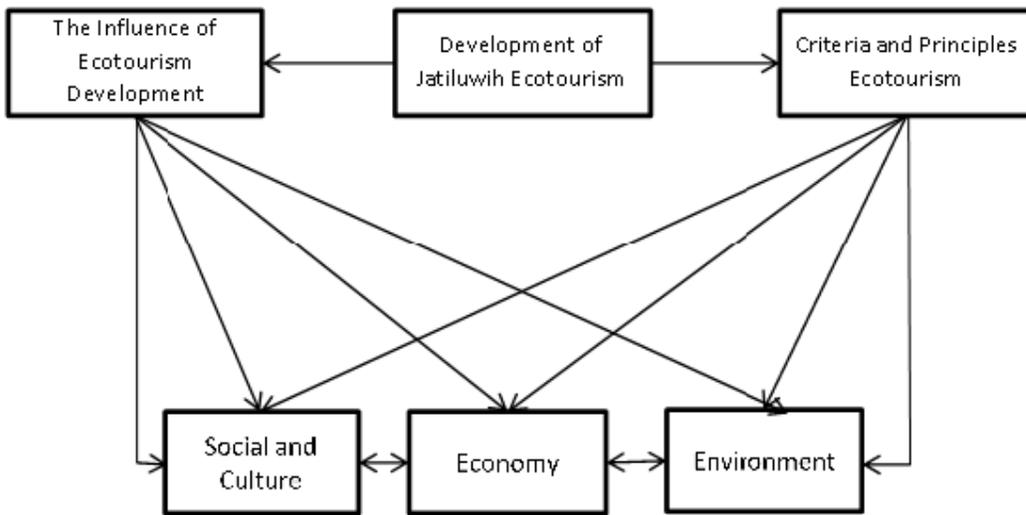
Research Method

A. Population and Sample

The object of this research is the people of Jatiluwih Village, Village officials, tourism practitioner such as hotel owners, travel agent owners, and related institutions in Tabanan Regency e.g. Culture and Tourism Agency. The sample was randomly chosen based on the proportion of livelihood.

B. Time and Place

This research that will take three months starting from April to June 2010, will be conducted in Jatiluwih Village – Tabanan Regency,which is located 13 km North of Penebel Sub-Regency, about 26 km from the central government of Tabanan Regency and 47 km from Denpasar. This village is chosen as a research site based on some considerations, which are: 1)   In the Tabanan Regency Tourism

Development Plan, by the Tabanan Regent Decree Number: 470 Year 1998 about the determination of tourist attraction,the village of Jatiluwih is determined as a Travel Attractions, 2) by the Tabanan Regent Regulation Number: 9 Year 2005 about Detailed Space Management Plan of Jatiluwih Village is determined as an Environment and Culture Conservation Area, 3) Jatiluwih Village is an upstream area, the water source for Tabanan region, 4) Jatiluwih Village is potential for the development of ecotourism and has beautiful natural terraced rice fields that are very different from those of other regions in Bali Island, in Indonesia and even in the world. They make this village have a high commercial value to sustainable tourism development. Another consideration is that the tourism will provide consequences for the environment and the socio-economy Jatiluwih villagers. JatiluwihVillage has been known and visited by foreign tourists.

C. Sampling

The techniques used to do the samplingare as follows:

1. Propositional RandomSampling, which takes samples randomly by taking into account proportion ofsampleand population. The samplesof somegroups of the   livelihoods are taken proportionally. The samplingis based on Slovin'sformula:

$$n = \frac{N}{1 + Ne^2}$$

n=sample size

N=population size

e=critical value(limit study) is desired.

 2. Purposive sampling, which takes samples for certain purposes, in this case the samples are informants that hold important roles in this Villagesuch asvillage officials, customary village officials, head of subak, some village figures, and officials inthedepartments or agenciesin TabananRegency.

   The number of respondentswhowere takenas samples to providethe qualityand ratingsfor internalandexternal factors in Jatiluwih ecotourism development was5 respondentswhoreally knowandare competentin Jatiluwih ecotourismdevelopment.

D. Number of Sample

Based on thecalculationofSlovin's formulawiththe expectedlimitof 0.10,thesample size of this studywas 95peopleplus the5peoplewhowere selected based on purposive sampling. The total number of samplewas then as many as 100people. The 95peoplewerecalculatedproportionallyandselected radomly.

E. Data Source and Kind of Data

1. Kind of Data

The Data used in this study are :

a. Qualitative Data

b. Quantitative Data

2. Data Source

The data sources of this study are:

a. Primary Data

b. Secondary Data

F. Technique of Collecting Data

The techniques of collecting data used in this research are as follows:

1. Library research

2. Field observation

3. Interview

G. Data Analyses

1. Descriptive Statistic

Descriptive analysis is used to analyse the data in this study.It is used topresent and describeclearlyandsystematicallythe data obtainedin the field. The activitiesto analyze the datacoverdata editing, data coding, anddata processing.

Toidentify the impacts ofJatiluwih ecotourism development, 36questionswere given to each respondent.The score is from 36,the lowest,until 72,the highest,andthat range of score is categorizedintothreecategories of impact:

335

Tabel 01.   Categories of Impact

No	Impact	Score
1	Low	36 - 47
2	Medium	48 - 59
3.	High	60 - 72

Source : Results of the research

Toidentifymore detail the influence oftourism developmenton economy, socialculture andenvironment, the same method as the one mentioned above was used but with different number of questionsin each field.

Toidentifythe conformity ofJatiluwih ecotourism managementwiththe principlesandcriteria of ecotourismdevelopment, 20questionswere given to each respondent withthe lowestscoreis 20and the highestscore is 40. The range of score is categorizedintothreecategories of impact.

Tabel 02. Categories of Impact

No	Impact	Score
1	Low	20 – 26
2	Medium	27 – 33
3	High	34 – 40

Source : Results of the Research

2. Chi Square Analysis

Toknowthe conformity ofJatiluwih ecotourism managementwiththe principlesandcriteria ofecotourismdevelopment andto know the impacts ofecotourism development on social economy, cultureand environment, chi square analysiswas used[41] :

$$X^2 = \sum_{f,F=1}^{k} \frac{(fi - Fi)^2}{Fi}$$

f_i =   observation frequency

F_i =   theory frequency

Dalam penelitian ini analisis Chi Square diolah dengan menggunakan program SPSS. The Chi Square in this research was used with SPSS

Results of the Research and Discussion

A. Results of the Research.

1. Ecotourism Development in Jatiluwih Village.

a. History of development.

The development of tourism in Tabanan Regency is conducted according to the Bali province government regulation concerning the space management Number 3 Year 2005. Based on Tabanan Regent Decree No. 470 year 1998 concerning the determination of Tourist Attraction and   Tabanan Regent Decree No 266 year 2007 concerning the determination of Telaga Tunjung Dam in Timpag Village, Kerambitan village as a Tourist Attraction,   there are 25 tourist attractions in Tabanan Regency.

The Policies for managementanddevelopment of Natural and Cultural Conservation Area of Jatiluwih which arein accordance with the Decree ofTabanan RegentNumber 9 Year 2005 about Detailed Space ManagementPlanof NaturalandCultural Conservation Areaof Jatiluwih, are as follows:

1) The tourist attraction facilities that are allowedto be built are home stay with maximum 3(three) bedroomsperunit; food and beverage (FB) facilities, spots for enjoying view, trecking facilities, agrotourism facilities, etc.

2) The development of the facilitiesat thetourist attractions is carried outinresidential areas(especially the development of home stays and FB facilities).

3) The facilities can not be built in conservation areas (forests, ravines and river banks, around springs, sacred area of pura) rice fields, and gren belt area.

b. Kinds and Attractionsof Ecotourism that are developed

Terracedpaddy fieldsarethe major ecotourism attractionofJatiluwih,stunning view of terrraced paddy fields and terraced rice fileds along river bank, mountain view, forest and cool weather. Jatiluwih also has the Subak irrigation system which is traditionally well-managed by the people of Jatiluwih.

The ritual activity of agriculture community of Jatiluwih Villageis one of thetourist attractionsthat can be enjoyedby the tourists. Thoseactivityare the implementationofthe concept TriHitaKarana.

Otherecotourismattractionsthat are developedinclude:

1) Seeing

2) Trekking

3) Horsing

4) Cycling

5) Rafting

c. Available Facilities and infrastructure.

The facilities and infrastructures available in Jatiluwih Ecotourism are :

Facilities

1) Hotel/Homestay.

2) Restaurant.

3) Souvenir Shops.

Infrastructure

1) Clean Water.

2) Electricity.

3) Telephone.

d. Number of Tourists Visit

Number of tourist visitstoJatiluwih ecotourismin 2007 wasas many as20,854people. It increased to24,002people in 2008. Highestnumber of visitswas in the months ofJuly, August, September and

October.

e. Data about Tourists

The data about touristthat can be obtained fromthe secondary data of theecotourism management are thecountry where the visitors come from. In 2007and 2008, the tourists who visitedJatiluwih ecotourism weremostlyforeign tourists, which was98.90% in 2007 and 99.73% in 2008, the remaining1.10% in 2007and0.27% in 2008 weredomestic tourists.

f .Jatiluwih Ecotourism Management

Jatiluwih Ecotourism area is managed by the villagers of Jatiluwih through a Management Board. This body is chaired by the Head of Jatiluwih Village, but this board has not been operated optimally. It can be seen from the lack of clear organizational management structure. Based on the Letter of Agreement Number 974/109/Local Revenue Office aboutCooperation in   Managing the Admission Charge in Jatiluwih, Tabanan Regent appointed the head of Jatiluwih Village and there are staffs that are asked to manage the admission fee and parking area in Jatiluwih.Based on the Letter of Agreement the officials who collect the admission fee get 20 % of the gross income, the village gets 50 % of the net income and the government Tabanan gets 50 % of the net income. Based on the the memorandum of understanding in the village meeting, of the 50% of the net income which is for the Village of Jatiluwih, 35 % is for desa dinas and 65% for customary village.

g. DevelopmentObstacles

The potency of ecotourism in Jatiluwih Village, as has beenpreviouslydescribed, has not beeenoptimally developeddue tosomeobstaclesit faces. From the interviewswiththe villagers, community leaders, andHead of Tourism Agency ofTabanan,andfield observationsin the fieldthe obstacles are among other things:

1)   The human resourcesthat have not yet beenadequate.

2)   The management ofecotourismthat has not yet been conducted efficiently and effectively.

3)   Inadequate facilities and infrastructure.

2. Conformityof theDevelopmentProgramwith the PrinciplesandCriteria of Ecotourism

Toknowhow compliantthe developmentprogram of JatiluwihEcotourismis with the principles andcriteria of ecotourism, 100 respondentswere given thequestionsaboutthe conformity ofJatiluwih ecotourismdevelopmentprogramwiththe principles of ecotourismdevelopment that were definedby theEnvironmental Impact Management Agency. Most of the respondentsstatedthatJatiluwihecotourismdevelopmentprogramin accordancewith thecriteriainthe principles ofecotourismdevelopment –76% respondentsstatedthat Jatiluwihecotourism development programwashighly compliant with the principles, 19% repondents stated that it was moderately compliant and 5% respondentsstated that the program was lowly compliant.

The compliance rates with each principle of ecotourism development are, based on the research, as follows:

a) Conservation Principle

The compliance of ecoturism development with the principles ofconservationis analyzedthrough some criteria; the development utilizes biodiversitydoes notdamagenatural resources, does nothave any negative impactson the environment, mostof the incomeis usedtofinance environmental preservation efforts, utilizinglocal resourcesin a sustainable mannerandprivate sector's participationin protecting the environment.

Crosstabsstatisticanalysisshows that 81% respondentsstatedthat theprogramwashighly compliant with the criteria of conservation principles, 12% respondents stated that the program was moderately compliantand6% respondentsstated that it was lowly compliant.

b) Education Principle

Jatiluwihecoturism development's compliancewith the criteriaofeducationalprinciplescould be seen from the increasingawareness of the local people and the touristsofthe environment preservation. Based oncrosstabs statisticalanalysiswith the help from SPSS, Jatiluwihecotourismdevelopmentprogram is highly compliant with the principles. 76% respondents stated that the program was highly compliant, 19% respondents stated that it was moderately compliant andthe remaining 5%respondentsstated that the program was lowly compliant.

c) Economic Principle

Based on crosstabs statisticalanalysiswith the help from SPSS, 47% respondents stated that the Jatiluwih ecotourism development program was moderately compliant with the economic principles , 40% respondents stated that it was highly compliant and the remaining 14%respondents stated that the program was lowly compliant.

Based on thechi-square analysis, the score obtained wasof22.167. It is greater thanthe chi square table score which was, atsignificance 0.05,9.488. Thisprovesthatthere isa significantrelationshipbetweenthe development of Jatiluwih ecotourismandthe criteriain the economic principles.

d) Participatory principle

Based on crosstabs statisticalanalysiswith the help from SPSS,72% respondents stated Jatiluwihecotourismdevelopmentprogram was highly compliant with the participatory principles, 22% respondents stated that it was moderately compliant andthe remaining 6%respondentsstated that the program was lowly compliant.

Based on thechi-square analysis, the score obtained wasof24.749.It is greater thanthe chi square table score which was, atsignificance 0.05,9.488. Thisprovesthatthere isa significantrelationshipbetweenthe development ofJatiluwih ecotourismandthe criteriain the participatory principles.

h. The Impacts of Jatiluwih Ecotourism Development on Economy, SocialCulture and Environment.

The ecotourism development in Jatiluwih has impacts onthe people living in this village. It has impacts on economy, social culture and environment in Jatiluwih administrative village.

1. Impacts of Ecotourism on the People's Economy.

80 % respondents stated that the ecotourism development program in Jatiluwih Village had moderate positive impacts on local economy, 14 % respondents stated that the program had insignificant positive impacts on the local economy while 6 % respondents stated that it had significant positive impacts

on the local economy.These results are supported by the study conducted by *Tugba KIPER* et.al (2011) which states that the ecotourism development in Kiyikoy, Turkey has successfully created more job opportunities (stated by 84.9 % respondents), improved life standard (stated by 84.9 % respondents), increasedthe number of female workers (stated by 77.5% respondents), attracted new investors (stated by 80.7 % respondents), improved diversification of agricultural products (stated by 50.6 % respondents) and improved the quality of agricultural products (stated by 75.3 % respondents).

Based on thechi-square analysis, the score obtained wasof9.997.It is greater thanthe chi-square table score which was, atsignificance 0.05,9.488. Thisprovesthatthe Jatiluwih ecotourism development program has not yet significantly given positive impacts to the people's economy.

2. Impacts of Ecotourism on the people's social culture

The development program of Jatiluwih ecotourismhas positive impacts on the people's social culture. 72 % respondents stated that the program significantly gave positive impacts to the people's social culture, 20 % respondentsstated that it moderately gave positive impacts to the people's social culture and 8 % respondents stated that the program insignificantly gave positive impacts to the people's social culture. These results are supported by the study conducted by *Tugba KIPER* et.al (2011) which states that the ecotourism development in Kiyikoy, Turkey has led to internal migration (stated by 65.6% respondents), created such activities as cultural festivals (stated by 89.6 % respondents), increasedcross-sector cooperation (stated by 77.4% respondents), increased the awareness of the importance of local traditions (stated by 77.4 % respondents), and caused better cultural protection (stated by 68.8% respondents).

Based on thechi-square analysis, the score obtained wasof12.334.It is greater thanthe chi-square table score which was, atsignificance 0.05,9.488. Thisprovesthatthe Jatiluwih ecotourism development program has significantly given positive impacts to the people's social culture.

3. Impacts of Ecotourism on Environment

The development program of Jatiluwih ecotourismhas significantly given positive impacts to the environment. 88 % respondents stated that the program significantly gave positive impacts to the environment, 9 % respondentsstated that it moderately gave positive impacts to the environment and 3 %

respondents stated that the program insignificantly gave positive impacts to the environment.

Based on thechi-square analysis, the score obtained wasof94.216.It is greater thanthe chi-square table score which was of9.488significanceat 0.05. Thisprovesthatthe Jatiluwih ecotourism development program has significantly given positive impacts to the environment.

B. Discussion

1. Ecotourism Development in Jatiluwih Village

Based on the theory ofecotourism development proposed by the Directorate General of Tourism, Art and Culture,about the elements and the important factors in the development of ecotourism as well asthe required elements in an ecotourism development area, the program is in accordance with the theory proposed by Neal and Trocke (2002) in Damanik & Weber (2006).

2. The Effect ofEcotourism DevelopmentinJatiluwih Village onEconomic, SocialandCulturalEnvironment

For the principles of conservation, education principles and participatory principles, results of research on the conformity of ecotourism development program in the village of Jatiluwih is categorized in the high level of conformity.

3. The Effect of Ecotourism Development in Jatiluwih Village on the Economy, Social Culture dan Environtment.

Based on theresults of research conducted, the development ofeco-tourismhas given the high-level influenceonthe socio-culturalandenvironmental aspect of Jatiluwih community community. From allindicators usedtoanalyzethe influenceof thesocio-cultural development ofeco-tourismandthe environment, the development has been conducted in accordancewith theexpectationsofthe ecotourism developed theory. Economically, the development ofecotourismin the village of Jatiluwihhas given moderate effect to the community.

CONCLUSIONS , IMPLICATIONS AND SUGGESTIONS

A. Conclusion

Based on the results, it can be concluded that

1. The tourism development in Jatiluwih has been conducted in accordance with the policy Jatiluwih ecotourism development based on Tabanan Regent Regulation No. 9 year 2005.

2. The compliance levels of the development of ecotourism Jatiluwih criteria for ecotourism development principles as formulated by the Environmental Impact Management Agency are as follows :

    a. Based on the criteria in the principles of conservation, ecotourism development in the village Jatiluwih categorized under the category of a high level of compliance.

    b. Analyzed from the criteria in educational principles, the development of ecotourism in Jatiluwih reached the high category level.

    c. The conformity of ecotourism development in in the village of Jatiluwih from the economic principles is categorized under the moderate level.

    d. Based on the criteria in the principle of participation, the development of ecotourism Jatiluwih can be categorized under the category of a high level of compliance .

3. The influence level of tourism development in Jatiluwih village based on the economic, social, cultural and environmental aspects of Jatiluwih community is as follows :

    a. Economically, the effect level caused by the development of ecotourism is categorized in moderate level.

    b. Socio-culturally , eco-tourism development in Jatiluwih village has given a significant positive impact with high category.

    c. Environmentally, the development of ecotourism in the village of Jatiluwih has a significant positive impact to the category of high-level influence .

B.Implications

Based on the results of the study, the implications for the future used to develop ecotourism in village Jatiliwih are as follows :

4. To provide adequate facilities especially ecotourism accommodation facility that is in accordance with the established policy development. Adequate accommodation facilities can encourage the tourists to extend their stay

5. To try to hold a long stay of tourists with several agendas and cultural performances that are provided regularly.

6. To design local community-based ecotourism packages.

7. To train local community human resources.

8. To improve the quality of craft industry/local souvenirs.

9. To try to maintain and preserve the sustainability of ecotourism in Jatiluwih

10. To minimize the negative impact of ecotourism development both economic social, cultural and environmental.

C. Suggestions

Based on the results of the discussion and conclusion, several recommendation can be presented as follows:

1. The communities of Jatiluwih are recommended to continue the development of ecotourism in Jatiluwih because it has been proved that, in accordance with the criteria and principles of ecotourism development, the development has been shown a positive influence in economic, social, cultural and environmental development. They should always maintain the existing circumstances and continue to improve the quality of natural resources, human resources, and cultural resources to be sustainable and try to increase the number of tourists to come and visit the region.

2. Concerning the finding that the development of ecotourism in Jatiluwih and the economic development is still in the moderate level, several recommendation can be presented as follows:

a. To increase the capacity of Area Management Board , with the clear structure and duties , functions. Those who sit on the management board must have sufficient competence that is expected to design development programs especially in the areas of economic empowerment

b. Independent recruited human resource development by implementing foreign language courses or encourage young people to study tourism in the region so that they can work while keeping to their activity as farmers.

3. To arrange tour packages such as cultural art performances on a regular basis and other cultural tourist attraction in order to make the tourists to stay longer.

4. Establishing cooperation with agent/travel agency in order to manage or handling tour packages involving the community in Jatiluwih village as a local guide.

5. Tabanan regency and provincial government of Bali should be able to give greater attention to the village of Jatiluwih through economic empowerment and human resource development program. It should also contribute to a wider territory that is fully managed by the community of the village neighborhood of Jatiluwih as an incentive for communities to maintain sustainable ecotourism Jatiluwih.

6. Jatiluwih village community should not be too ambitious to increase revenues from ecotourism because if one is obsessed with the high economic development, the ecotourism attraction itself will decline that further will affect the tourist traffic.

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A Study of Inter Sectoral Linkages in India

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ABSTRACT

The study attempts to examine the inter-linkages among the sectors of the Indian economy and covers the period 1971-72 to 2012-13. After investigating the stationarity of the variables, cointegration analysis has been conducted followed by VECM analysis and Granger Causality Test. Findings suggest that a unidirectional causality is running from industrial and services sector to the agricultural sector. Short run bidirectional causality is observed between the services and industrial sector output. In the long run there exists a unidirectional causality running from agricultural and services sector to the industrial sector. A long run unidirectional causality is also observed from agricultural and industrial sector to the services sector.

1. Introduction

Economic development in any nation brings along with it distinct structural changes. The Gross Domestic Product (GDP) of a country increases as the economy progresses and a distinct shift in economic activity is observed from agriculture towards services and industrial sector mainly due to the high elasticity of the latter two sectors. The shift from agriculture, to industry and finally to services brings with it significant changes in the production process, consumption process and various other factors. During 1970s India was an agro economy and it has transformed into a predominantly services oriented economy since the

mid-1980s. The share of services in India's GDP at factor cost (at current prices) increased from 33.3 per cent in 1950-51 to 56.5 per cent in 2012-13. The shift in composition of GDP has bought about substantial changes in the inter sectoral production and demand linkages. With growth in the services sector there has been a phenomenal growth in distributive, communication, financial and consumer services which in turn drives from increased demand from the commodity producing sector. From policy perspective also understanding the structural relationship among the sectors is important. In a country like India, a study of the sectoral linkages is very important so that the positive growth stimuli among sectors can be identified and fostered to sustain the economic growth momentum Now, whether agriculture and allied services growth is important for a country or industrial sector should be considered as the engine of growth and how to link the growth of these two sectors with the services sector has always been an area of research. Against this background, the present paper focuses on examining the inter-linkages among the sectors of the economy.

2. Literature Review

Rangarajan (1982) established a strong degree of association between agricultural and industrial sectors in Indian context. Bhattacharya and Mitra (1989) came to a conclusion that the relationship between agriculture and industry depends on the relative growth of income and employment both in the industrial and services sector. Bhattacharya and Mitra(1990) found that the share of the tertiary sector in total national income has been increasing and they came to a conclusion that services activities are significantly associated with agricultural and industrial sector that in turn helps in employment generation. The deteriorating linkages between agriculture and industry was observed and have been primarily credited to the deficiency in demand for agricultural products, decline in share of agro-based industries and slow employment growth (Chowdhury and Chowdhury, 1995). Hansda (2001) conducted a detailed I-O analysis and found that the linkages from services to industry were strong reflecting the use of services sector inputs in industry. Sastry et al (2003) found the dependence of industry on agricultural and services is presently much more then it is used in the 1970s and the 1980s. Further a fall in aggregate demand either in agriculture or services sector is likely to cause serious   production constraints in the

industrial sector, thereby affecting both demand and production linkages. A comprehensive analysis of the intersectoral linkages in the Indian economy for the period 1950-51 to 2000-01 was carried out by Bathla (2003). Banga and Goldar (2004) assessed the contributions of the services sector to industrial sector growth by using capital, labour, energy, materials and services production function for the Indian manufacturing sector for the period 1980-81 to 1999-2000. Gordon and Gupta (2004), Singh (2007) among others have found service sector has stronger backward linkages compared to forward linkages with both agriculture and industry. Saikia (2011) reports that the 'agriculture-industry' linkage has not only been deteriorating over the years but has undergone directional changes. Motivation for the paper stems from the diverse findings on the sectoral linkages in Indian context.

3.   Data and Methodology

Annual data from 1971-72 to 2012-13 are obtained from RBI publication. The GDP data have been classified into three parts: agricultural GDP, industrial GDP and services GDP. The agricultural sector consists of Agriculture and Allied activities, Fishing, Forestry and Logging. The industrial sector includes Mining and Quarrying, Manufacturing, Construction, Electricity, Eas and Water Supply. The services sector includes Transport, Storage & Communication, Trade, Hotels & Restaurants, Banking & Insurance, Real Estate, Ownership of Dwelling & Business Services, Public Administration and Other Services. The trend in the sectoral shares of gross domestic product has been analysed by estimating the following simple regression equation: $y_i = \alpha + \beta T$ …………………………...………..…(1)

Where y stands for the share of the ith sector in gross domestic product, T stands for the time trend, α and β are the coefficients of the model. A significant positive value of coefficient of time, β for a particular sector indicates a positive trend of that sector, while a significant negative value of the coefficient would mean a negative trend.

Augmented Dickey Fuller (ADF) (1979) test and Phillips-Perron (PP) (1988) test is employed to test stationarity of the time series data followed by cointegration technique of Johansen (1988) and Johansen and Juselius (1990) to see whether the variables are tied in a long term relationship.

According to Johansen (1988), a p-dimensional VAR model, involving up to k-lags, can be specified as

below.

$$Z_t = \prod{}_1 Z_{t-1} + \prod{}_2 Z_{t-2} + \ldots\ldots\ldots \prod{}_k Z_{t-k} + \varepsilon_t$$

…(2) where Z_t is a $(p \times 1)$ vector of p potential endogenous variables and

each of the $\prod_i$ is a $(p \times p)$ matrix of parameters and ε_t is the white noise term. Equation (1) can be

formulated into an Error Correction Model (ECM) form as below.

$$\Delta Z_t = \prod{}_k Z_{t-k} + \sum_{i=1}^{k-1} \theta_i \Delta Z_{t-i} + \varepsilon_t$$

…(3) where the first difference operator is

represented by Δ, and $\prod$ and θ are p by p matrices of unknown parameters and k is the order of

the VAR translated into a lag of $k-1$ in the ECM and ε_t is the white noise term. Evidence of the

existence of cointegration is the same as evidence of the rank (r) for the $\prod$ matrix. Johansen and

Juselius (1990) have shown that the rank of r of $\prod$ in equation (2) is equal to the number of

cointegrating vectors in the system. When the rank of $\prod$ is reduced i.e. [$1 \leq Rank \prod \leq (p-1)$], in this

case, even if all the variables are individually I(1), the level-based long-run component would be

stationary. In this case, there are ($p-1$) cointegrating vectors and Vector-Error Correction Model (VECM)

methodology to be used. Johansen and Juselius (1990) have developed two Likelihood Ratio Tests. The

null hypothesis of 'r' cointegrating vector(s) against the alternative of 'r+1' cointegrating vectors is

evaluated in the Maximal Eigen value statistic whereas the null hypothesis of, at most, 'r' cointegrating

vector(s) against the alternative hypothesis of more than 'r' cointegrating vectors is evaluated in the

Likelihood Ratio Test based on the Trace Test. If the two variables are I(1), and cointegrated, the Granger

Causality Test will be applied in the framework of error correction mechanism (ECM).

Granger (1987) have found that, in the presence of cointegration, there always exists a subsequent

error-correction representation, captured by the error-correction term (ECT) which captures the long-run

adjustment of cointegration variables. Apart from identifying the direction of causality, the incorporation

of error correction term (ECT) in the VECM model helps to analyse the short run and long term

352

relationship between the variables.

$$\Delta AGRI_t = \sum_{j=1}^{p-1} \beta_{11} \Delta AGRI_{t-j} + \sum_{j=1}^{p-1} \beta_{12} \Delta INDUS_{t-j} + \sum_{j=1}^{p-1} \beta_{13} \Delta LnSER_{t-j} + \alpha_1 ECT_{t-1} + \varepsilon_{1t} ....3(a)$$

$$\Delta INDUS_t = \sum_{j=1}^{p-1} \beta_{21} \Delta INDUS_{t-j} + \sum_{j=1}^{p-1} \beta_{22} \Delta AGRI_{t-j} + \sum_{j=1}^{p-1} \beta_{23} \Delta SER_{t-j} + \alpha_2 ECT_{t-2} + \varepsilon_{2t} ....3(b)$$

$$\Delta SER_t = \sum_{j=1}^{p-1} \beta_{31} \Delta SER_{t-j} + \sum_{j=1}^{p-1} \beta_{32} \Delta AGRI_{t-j} + \sum_{j=1}^{p-1} \beta_{33} \Delta INDUS_{t-j} + \alpha_3 ECT_{t-3} + \varepsilon_{3t} ....3(c)$$

where the first difference operator is represented as Δ and $\varepsilon_{1t}, \varepsilon_{2t}$ and ε_{3t} are white noise. Error correction term is denoted by ECT, and the order of the VAR is represented by p, which is translated to lag of $p-1$ in the ECM. α_1, α_2 and α_3 are the coefficients for the error correction term and represent the pace of adjustment after AGRI, INDUS and SER deviate from the long-run equilibrium in period t-1. The short run causality is evaluated by testing whether the estimated coefficients on lagged values are jointly statistically significant and this is done by using the F test. Long run causality is evaluated by testing whether the coefficient of the error correction term in each of the above equation 3(a), 3(b), and 3(c) (i.e., $\alpha_1 = 0; \alpha_2 = 0; \alpha_3 = 0$) is statistically different from zero using t test.

4. Empirical Analysis and Findings

Let us have a look at the growth pattern of GDP in the three sectors over the years.

Table 1: Rate of Growth of GDP by Industry of Origin at Factor Cost & at 2004-05 prices (Constant prices)

Year	GDP Growth rate at factor cost at constant prices	Agricultural	Industry	Services
1971-72	1.01	-1.88	2.51	3.68
1981-82	5.63	4.60	8.01	5.19
1991-92	1.43	-1.95	0.34	4.69
2001-02	5.52	6.01	2.61	6.88
2012-13	4.96	1.79	3.12	6.59

As it is observed in table 1 there is a considerable variation in the performance of individual sectors over the period from 1971-72 to 2012-13. It is seen that the growth of the agricultural sector is the most variable, however a consistent growth in the services sector over the years is observed.

4.1 Structural changes in the national economies

To analyse the structural changes in the state economies, the GPD data is divided into three major sectors, agricultural, industrial and services sector and then the output of each of these sectors has been regressed on time using equation 1. The values of the time coefficients for the different sectors over the time period is represented below in the table 2.

Table 2: **OLS result of changing share of sectors over the period 1971-72 to 2012-13**

	AGRI	INDUS	SER
Coefficient	12321.99*** (32.06004)	29399.47*** (14.90834)	62686.24*** (13.09879)

*** indicates significant at 1% level. t statistic are in   parentheses.

It is observed that the coefficients are highly significant in all the regressions, suggesting the presence of significant trends in the sectoral shares. The coefficients of time are positive for all the sectors for the time period of study.

4.2 Interlinkages

In order to examine the linkages amongst the three sectors in the Indian economy Granger Causality test has been used. Before conducting the test it is necessary to examine the time series properties of the variables. In order to conduct Granger causality test in a VAR framework all the concerned variables should be stationary. Both ADF and PP test are used to investigate stationary property of the time series.

Table 3: Test of Unit Root Test Hypothesis of India

	ADF Test		PP Test		
Tests	Level	First Difference	Level	First Difference	Remarks
AGRI	2.464027	-10.25057***	2.881560	-10.25057***	I(1)
INDUS	2.197613	-3.635013**	4.705941	-3.635013**	I(1)
SER	4.531003	5.411907***	4.531003	-5.411907***	I(1)

(a)The critical values are those of *MacKinnon* (1991).

(b)***, ** and * represent the rejection of null hypothesis at 1%, 5% and 10% levels of

significance respectively.

The null hypothesis of unit root is not rejected in any of the three variables in levels, however each of the series is found to be stationary in first difference, therefore all the variables are I(1) variables. Since the variables are integrated of order 1- the series can be further tested for the existence of long run relationships among them by using cointegration technique. Here we apply the cointegration technique of Johansen (1988) and Johansen and Juselius (1990). The null hypothesis is of no cointegration.

Table 4: Johansen -Juselius Cointegration Test Results

H_0	H_1	λ_{trace}	$CV_{(trace,5\%)}$	Prob**
$r=0$	$r \geq 1$	49.96708	35.19275	0.0007
$r \leq 1$	$r \geq 2$	13.23090	20.26184	0.3457
$r \leq 2$	$r \geq 3$	3.675431	9.164546	0.4626
H_0	H_1	λ_{max}	$CV_{(max,5\%)}$	Prob**
$r=0$	$r=1$	36.73618	22.29962	0.0003
$r \leq 1$	$r=2$	9.555470	15.89210	0.3766
$r \leq 2$	$r=3$	3.675431	9.164546	0.4626

(a) r is the number of cointegrating vectors.
(b) Trace test indicates 1cointegrating equation at the 5% level of significance.
(c) Max-Eigen value test indicates 1 cointegrating equation at the 5% level of significance.
(d)** denotes rejection of the null hypothesis at the 5% level of significance
(e) The critical values (i.e., CVs) are taken from *Mackinnon-Haug-Michelis* (1999).

The results (table 4) indicate that the null hypothesis of the zero cointegrating vector is rejected at 5% level of significance. It shows that the variables are cointegrated with at least one cointegrating vector and there exists a long run relationship among the variables. But the long run relationship among the variables merely shows the degree of association and not interlinkages. In order to examine the degree of linkages amongst the sectors Granger Causality test needs to be conducted. The Granger causality test must be conducted in a VECM framework since we have a VAR with first differences system and

cointegrated variables.

Table 5: Short Run Granger Causality Test

Pairwise Granger Causality Tests			
Null Hypothesis:	Obs	F-Statistic	Prob.
ΔINDUS does not Granger Cause ΔAGRI	40	14.3128	0.0005***
ΔAGRI does not Granger Cause ΔINDUS		1.20411	0.2796
ΔSER does not Granger Cause ΔAGRI	40	8.36750	0.0064***
ΔAGRI does not Granger Cause ΔSER		0.07066	0.7919
ΔSER does not Granger Cause ΔINDUS	40	7.10979	0.0113**
ΔINDUS does not Granger Cause ΔSER		3.77296	0.0597*

*** , ** and * represent the rejection of null hypothesis at 1%, 5% and 10% levels of significance respectively.

The above table 5 shows the short run granger causality test and the F statistic suggest that there is a strong intersectoral growth linkages between industry and services. It reveals that change in GDP share in the industrial sector appears to granger cause change in GDP share in the agricultural sector at 1% level of significance. Similarly it is also seen that change in GDP share in the services sector causes change in GDP share in the agricultural sector at 1% level of significance. The null hypothesis that ΔSER does not Granger Cause ΔINDUS is rejected at 5% level of significance. We can also reject the hypothesis that ΔINDUS does not Granger Cause ΔSER at 10% level of significance. This reveals the existence of bidirectional causality among the industrial sector and services sector output.

Table 6: Long run Granger Causality test under VECM

Included observations: 40 after adjustments			
Standard errors in ( ) & t-statistics in [ ]			
Cointegrating Eq:	CointEq1		
AGRI(-1)	1.000000		

356

INDUS(-1)	-2.269221		
	(0.24120)		
	[-9.40820]		
SER(-1)	0.621320		
	(0.11115)		
	[5.58992]		
C	-26947.97		
	(22501.3)		
	[-1.19762]		
Error Correction:	ΔAGRI	ΔINDUS	ΔSER
CointEq1	-0.030856	0.199395	-0.209165
	(0.08759)	(0.08702)	(0.07984)
	[-0.35228]	[2.29149]**	[-2.61981]**
ΔAGRI(-1))	-0.546114	-0.199956	0.018444
	(0.14763)	(0.14667)	(0.13457)
	[-3.69913]	[-1.36331]	[0.13705]
ΔINDUS(-1))	0.448340	0.598531	0.236920
	(0.20696)	(0.20561)	(0.18865)
	[2.16635]	[2.91106]	[1.25586]
ΔSER(-1))	-0.078566	0.735385	0.352258
	(0.23066)	(0.22915)	(0.21025)
	[-0.34062]	[3.20916]***	[1.67539]
R-squared	0.316213	0.706978	0.955591
Adj. R-squared	0.259231	0.682560	0.951890

Based on the t statistics of the error correction terms (table 6) in equation 3(b) and 3(c) are significant, this suggest that ΔINDUS and ΔSER react to the cointegrating errors. The error correction term is significant in equation 3(b), therefore the null hypothesis of no causality from AGRI to INDUS and SER to INDUS is rejected at 5% level of significance. The error correction term is significant in equation 3(c),

therefore the null hypothesis of no causality from AGRI to SER and INDUS to SER is rejected at 5% level of significance.

5. Conclusion

A large degree of interdependence is observed in sectoral growth. The short run causality test reveals that there exists a unidirectional causality running from industrial and services sector to the agricultural sector. Short run bidirectional causality is observed between the services and industrial sector output. In the long run there exists a unidirectional causality running from agricultural and services sector to the industrial sector. A long run unidirectional causality is also observed from agricultural and industrial sector to the services sector. The study reveals that the income of the economy is largely depended on the income generating from the services sector and the income of the services sector in turn depends on the growth of the agricultural and industrial sector. Despite the fluctuations and volatility in the share of the agricultural sector in GDP this sector has not lost its importance in overall economic growth. The contributions of the industrial sector though relatively better than agricultural sector, it has a significant positive impact on services sector income. Although services sector has emerged as the growth driver of the economy but this growth needs a more careful re-examination for its sustainability and other macroeconomic implications. If liberalized measures are directed simultaneously at all the three sectors than it would go a long way in expanding the markets for goods and services produced in the economy. Therefore for fostering quick, sustained and extensive growth the agricultural and industrial sector remains the key priority for government policies. Two-third of the country's population is in rural areas with agriculture being the main source of income and employment, hence reforms in the agricultural sector needs policy consideration to be able to harness the export potential of agro products. A relatively faster growth of the services sector vis-a vis other sectors is not at all desirable and needs a correction in terms of enhancing the growth synergies among sectors.

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APPLICATION OF METHODOLOGY FOR BUSINESS PROCESS IMPROVEMENT IN SPECIALIZED DIAGNOSTIC LABORATORY

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Abstract

The research in this paper has the purpose of determining the existing business processes in the specialized diagnostic laboratory for the HPV (Human Papilloma Virus) analysis at the Clinic for Gynecology in Skopje, Macedonia, and the possibility of their improvement by applying the methodology of the TQM (Total Quality Management). Today, with advances in technology and new methods of testing, laboratories are equipped with modern appliances for testing, detection and diagnosis of many causes of diseases. During the recent yearsin Macedonia, there are economic managers responsible for managing the business processes these labs supplying reagents and apparatus, establishing standard operating procedures, cost control in operations, financial results,beside the medical personnel. These managers use a variety of tools to diagnose possible problems in the operation of laboratories, management, and taking care of the issues, following the global trend for continuous improvement of process through their management.

The methodology of the TQM relies on continuous improvement of all processes in the organization through small changes in short periods of time, including all organizational members, regardless of their hierarchical level, performed without major capital investment. The request for improvement of processes and involvement of competent people in it is very important, in order to reduce the morbidity and mortality in the country. That means preventing diseases, which significantly reduces the cost of treatment and hospitalization of patients. Improving business processes by using the TQM methodology aids monitoring, control and mandatory vaccination against HPV infections in young people and counseling for sexually transmitted diseases and their prevention. In this way, the laboratory should become a reference point for comparing the results of other laboratories in the region and the world.
Keywords: business processes, continuous improvement, PDCA (Plan, Do, Check, Act) cycle, TQM.

Introduction

Today, the trend in health care is the control of infectious diseases for the purpose of reducing the mortality of people as their result.
Laboratory practice in health care is realized through medical laboratory professionals who test samples from patients in order to prevent, diagnose, treat and control diseases. The clinical course of the disease or its laboratory and radiological findings may be changed by preventive medical interventions that will lead to recovery or continuation of disease with fewer or less severe side effects.

1. Approaches for improving the quality of business processes

The need for quality system design has emerged in response to the demands of patients and changes inside and outside the organization(Shiba, Walden, 2002). The development of organizations and institutions are defined as the process of quantitative and qualitative changes in the volume and characteristics of objects, phenomena and processes in nature and society (Mitreva, Golomeova, 2013). In many organizations there is no clear picture and idea for what needs to be improved. The policy is clear, but the lack of strategy for reaching the goal for many managers is a problem. The new strategy towards quality, called integrated quality management or total quality management (TQM), answers the questions (Mitreva, et al., 2013): What patients want? What should be done? What processes should be used? We analyzed the situation, formulated a problem and used multiple methods to resolve it(Nakata, 2002).

If top management decides just to redesign business processes, which is to make small improvements or modifications to existing processes, in that case the methodology used for reactive improvement of business processes ensures identification, problem solving and standard setting.

The methodology for **reactive improvement of business processes** is based on different approaches of quality improvement by using methods and techniques,and begins with the PDCA (Plan, Do, Check, Act) cycle.

There are two stages in the application of this methodology:

Phase 1: Diagnosis and assessment of the existing condition and

Phase 2: Fixing or solving the problem and improving the quality of the overall operation.

The methodology for quality improvement supported by PDCA cycle takes place in several steps,Tab.1 (Mitreva, 2009).

Table 1: Steps in the implementation of the methodology

PDCA cycle	Step	Activity
Plan – Planning	1	Initiative to make the improvement project
	2	Determining the subject of interest or defining the problem to be solved
	3	Collection and analysis of data, i.e. determining the severity of the problem
	4	Analysis of the cause of the problem
Do – Implementation	5	Choosing a solution to improve and establishing improvement plans
	6	Implementing the solution
Check – Control	7	Monitoring and evaluating the improvement plan results
Act – Corrective measures	8	Solution standardizing
	9	Closing the improvement project

The movementfortotalquality management(TQM) is basedon the notionthat qualityis not createdat the service control, but in thebusinessprocessesinall organizationalunitsanditmustbe controlledeverywhere. Thus, for the qualityofserviceallsectors are responsible. Withthisstrategy, the control comesfrom within thediagnosticlaboratoryand isexpandedinall aspectsof the organization,as the qualitygetsnewdimensions, notonlyqualityservice but alsoqualityofworkandorganization ofthe work. The messageofthisstrategyis **"Don't control the quality for the purpose of error removal, control it so you can remove the cause of error. Repeating theerror isshameful". Controldealswith the consequences, andmanagement causes** (Mitreva, 2011).

Proactive work begins with an analysis of the business organization, then continues through the analysis of the requirements of internal and external customer service and ends with a detailed definition of the process. Daily practice of each employee should not only be operation control, but employees must be trained to act proactively, rather than be occupied with detection.Employees must be given the responsibility and power to correct their mistakes and take out every problem related to quality / low quality that they discover. This creates all around care about the quality, but the process is a long term effort, commitment of top management and reliance on itself to fulfill the obligations. The design and implementation of the quality system involves the design and application of appropriate standard operating procedures and guidelines and changes in organizational structure that integrates quality as a function (Mitreva, 2012).

2. Subject of research and analysis

The subject of the research in this paper is the specialized diagnostic laboratory for HPV (Human Papilloma Virus) analysis at the Clinic for Gynecology, Skopje. The Gynecology Clinic is a tertiary institution where 4000 patients are admitted, treated, and cured annually. All medical cases that require more expertise or are insoluble in other medical facilities throughout the Republic of Macedonia are sent right into the clinic. Within the clinic, there is a specialist diagnostic laboratory for HPV (Human Papilloma Virus) analysis, staffed with a biologist, three laboratory technicians, and one doctor infectologist as specialist for HPV infections.

The survey was conducted by determining the existing business processes in the laboratory, diagnostics and analysis of all defects in the operation, complaints of patients, as well as determining the "bottlenecks" in the implementation of activities. Analysis of the current state allows making suggestions for improvement, i.e. improving them through the application of the TQM methodology.

The purpose of the survey is to get a real picture of the possibilities and potential that this specialist research laboratory has, effective utilization of resources and proposing corrective measures for improvement of the business processes, making their implementation in practice das bringing the laboratory at the level of a World laboratory. It would mean a greater focus on preventive measures, which would reduce the morbidity and mortality in the Macedonian population.The research methodology applied for improvement of business processes takes place in several steps (Mitreva, 2009).

The realization of the research

➢ *Step 1. Initiative to make the improvement project,*

The analysis is done on the basis of observation and direct contact with some of the employees and top management, and their willingness to adopt new knowledge and techniques in order to improve business processes. In conversation with the staff it is found that there is space for improvement in the laboratory. Based on their initiative, the function bearer of the process was granted, as well as their duties and responsibilities towards the diagnosis of the current situation in the laboratory, in order to provide proposed solutions for improvement were defined.

➢ *Step 2. Determining the subject of interest,*

In order to detect the problems, an analysis of several aspects that affect the successful implementation of business processes was made.

In order to get a realistic picture of the current situation in the laboratory, analysis of the existing organization of the Clinic of Gynecology, Skopje and the laboratory for HPV (Human Papilloma Virus) analysis, that functions as a separate unit in which the staff has a working biologist, three laboratory technicians and one doctor – infectologist has been conducted, Fig. 2. This staffing is insufficient for this type of laboratory, especially the fact that the unit lacks a responsible person or head of the department.
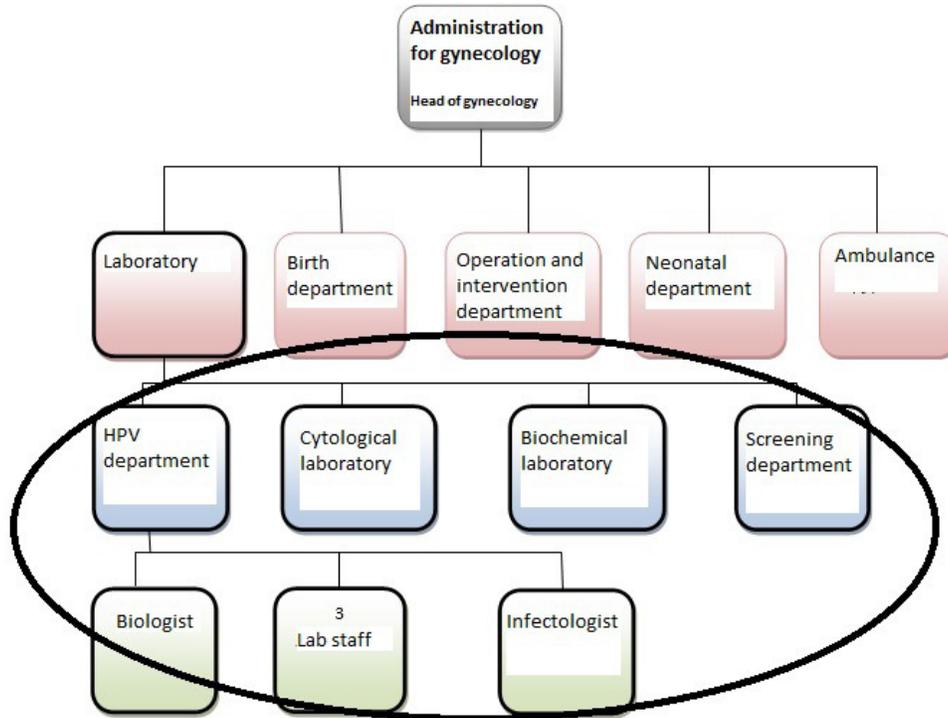
Figure 2:Organization of theClinicof Gynecology, Skopje

T*he analysis of the technical equipment* of the laboratory for HPV analysis showed that it has: three modern thermo cyclers, capillary electro extractor for DNA (Deoxyribonucleic Acid) and RNA (automated electrophoresis), magnetic extractor of nucleic acids, simple PCR (Polymerase Chain Reaction). This appliances are testing samples from patients from gynecology and they detect many causes for disease, but there are now only reagents for HPV (Human Papilloma Virus) analysis and some microorganisms. These reagents are used for microbiological and virological testing.

Analyzing the technical specifications of the machines, the main problem found is that they have great features, but are rarely used. Possibilities of biochemical technology or PCR (Polymerase Chain Reaction) in the field of molecular biology for amplification of one or more copies of a piece of DNA through multiple levels of amplification until you get millions of copies of DNA sequences, are required. These needs include DNA (Deoxyribonucleic Acid) cloning for sequencing (if it can get any infectious agent potentially present in a given sample for analysis) something that will be used to determine the required infectious agents. Polymer chain reaction relies on thermal cycles (which use three thermal cyclers), which denotes cycles of repeated heating and cooling of the reaction to separate the two DNA chains and the enzyme required to replicate the DNA sequence. The primers (short DNA fragments) containing sequences complementary to the target region along with a DNA polymerase are key components that provide repeatable and selective amplification. As it progresses, the polymer chain reaction generates DNA that serves as the basis for replication and it starts a chain reaction in which the basic DNA fragment is amplified exponentially. **This technique can be modified in order to perform a wide range of genetic modifications.**

The research and analysis of existing technical equipment showed that this technology is able to analyze:

- DNA phylogeny or functional analysis of genes;
- diagnosis of inherited diseases (laboratory would be serving the cytogenetic department that deals with determination of the potential for hereditary diseases in pregnant women) after performing amniocentesis or sampling amniotic fluid that surrounds the fetus. This way the current practice of making analysis based on subjective opinion of the person that sees the sample under a microscope will be overcome;
- determining the genetic print (option used in forensics to determine paternity) and
- detection and diagnosis of infectious diseases.

The laboratory has three new machines that were donated by the Ministry of Education:

- Multi DNA - where the camera performs automated electrophoresis or a sample or process that is necessary for the functioning of the PCR (Polymerase Chain Reaction) technique. This bridges any potential subjective errors that might occur during manual electrophoresis. With this camera you can isolate any DNA or RNA Ribonucleic acid) sequence of the electrophoresis gel. Process after which begins the PCR (Polymerase Chain Reaction) analysis;
- Magnetic extractors of nucleonic acids, nucleic acids which are extracted and separated from the sample by means of magnets. This way bridges and accelerates the extraction process which, if done manually takes a lot longer and is prone to errors and could get a false positive or false negative results;
- Real time PCR- allows for quantifying the presence of an infectious agent in a given sampling time. This device may affect the prevention of miscarriages caused by the Chlamydia trachomatis infection such as intracellular parasites and microbial detection which requires special conditions (appropriate sampling and sample transport, proper subjective analysis). The use of this device would remove all subjective factors in the health system that are quite pronounced and approaches to target application of the infectious agent with an objective method.

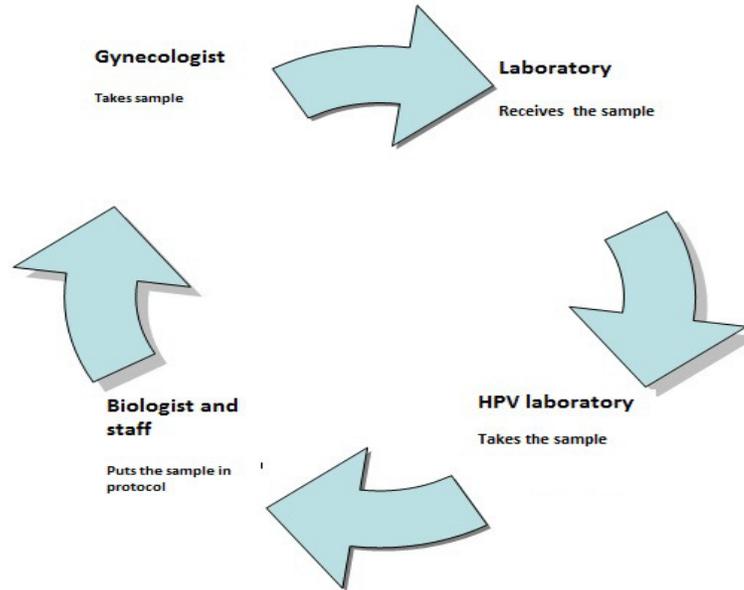The real business process for taking and testing the material in practice is as follows, Fig. 3:

Figure 3:Procedure fortaking andtestingthesampleinpractice

The biggest problem in this lab is the lack of utilization of the medical equipment and the non-inclusion of the infectologist in the process of sampling, diagnosing of patients and establishing protocols for established diagnosis of patients.

This paper proposes that the a doctor - infectologist is required to interpret the results and together with a doctor,the gynecologist that received the patient, make treatment protocols and management of pregnancy, based on analysis derived from the patient (individual protocol) thus minimizing the risk of miscarriage.

The previously explained technology allows identification of slow growing organisms as micro bacteria, anaerobic bacteria, or viruses from tissue or blood sample. Then by searching some virulent genes in microorganisms themselves it can be seen if it is a virulent or a non - virulent.

This technique can detect viral DNK and RNK in ways that used primers (short DNK fragments) are complementary to the nucleic sequences of the required virus for this technique and can be used for diagnosis and sequencing of the viral genome. The high sensitivity of this technique allows the detection of virus immediately after infection and long before the emergence of a disease (to act preventively). Such early diagnosis gives the doctors, the edge in the treatment.

The analysis of the financial and the health benefits have demonstrated that there have been large amount of funds invested in the laboratory for its modernization, but the devices have not been used and thus the investment does not yield results. In everyday practice, the activities related to disease occurrence in the patient's make the healing process take place through his hospitalization and treatment.This costs more than the preventive action taken by doctors. With prompt diagnosis and preventive medicine, the cost would be substantially reduced. The clinic does not work on prevention of diseases that would lead to a reduction in morbidity and mortality. The prevention would mean disease management or possible prevention of disease. But the tendency of the top management is getting quality service at minimal cost in performance.The previous activities follow an initial plan for process improvement in the unit.

> ➤ *Step 3. Collection and analysis of data, i.e. determining the severity of the problem,*

To use all the potential of the existing laboratory, but also to follow the trend of international medical guidelines required for creating a new department of the Clinic as a separate functional part that is integrated with the rest is needed. It would fit the existing laboratory and HPV molecular diagnostics as a structural and functional unit. This section should include counseling about the usefulness of vaccines and infectious diseases, to work on certain days of the week with a defined time. Counseling will be on the use of vaccines and their effectiveness, gaining knowledge regarding infectious diseases and their treatment and their potential role in pregnancy and childbirth.

This way the infectologist will possess the following duties and responsibilities:

- protocols for the gynecologists for delivery of women with an infection and thereby having the smallest risk in terms of infant and staff;
- protocols for purification of semen by the team of *in vitro* fertilization clinic, etc.;
- protocols for antibiotic treatment of women who have been proved by a gynecologist to have an infectious agent;
- and protocols for antibiotic treatment in women who are already pregnant and have an infection.

In order to realize the proposed improvement measures,the institution will need to hire additional medical staff to schedule checkups and eventually drew blood for further analysis proposed by the head - infectologist.

In order to enhance and to manage the business processes, it is necessary to equip the department with set computer database for:

- the number of vaccinated girls and their results of the checkups and HPV typology over the years with the possibility of prospective studies;
- all HPV analysis (those of Gynecology and those made in other institutions where there are pathological processes that are proven and considered that HPV is directly responsible as Clinic forEar Nose and Throat, Clinic for Maxillofacial Surgery, Clinic for Thoracic surgery , The Pulmonology Clinic and Clinic of dermato-venereology).

This way a huge database from which data can be drawn for analysis in section and longitudinal studies by all interested specialists will be made.The Infectologist will regulate and control the database.

In the near future this lab should become a central laboratory in Macedonia for HPV analysis, which will send material for analysis not only of secondary health facilities but also the primary and the private health sector. In addition, the full potential of existing equipment will be utilized for routine diagnostics that will be credible and lucrative. In this way, the MANU laboratory and the laboratory of PMF (Faculty of Mathematics and Natural Science) primarily having a basic research role, will be replaced.

These capabilities will enable the clinic to realize positive financial results and the state will receive a laboratory with a reputation of which database data for experts and scientific research purposes could be drawn.

To realize the proposed solution it is necessary to employ experts, more laboratory biologists, especially for molecular diagnostics, to expand the diagnostic and other infectious agents, not only in gynecological

population treated at the clinic, but in the neonatal population, where now lies the greatest morbidity and mortality of this clinic. Also, the department will be responsible for the control of intra-hospital infections in collaboration with obstetricians, gynecologists and pediatricians.

> ### Step 4. Analysis of the causes of problems, i.e. identifying the cause of the problem,

As the main cause of the current utilization of the laboratory is the organizational structure of the unit, lack of physician involvement -the infectologist within the investigation, detection and treatment of patients, utilization of the machines for laboratory testing and lack of necessary kits i.e. reagents. Cause of the problems is the lack of adequate information technology to collect information, lack of adequate space, office (medical room) for the doctor infectologist. Causes are also the lack of protocols for treating recurrent conditions and diseases in patients, lack of information and training of the employees about the opportunities and the capacity of the laboratory.

> ### Step 5. Choosing a solution to improve and establish improvement plans,

In order to improve the performance of the unit Department of HPV (Human Papilloma Virus) analysis and molecular diagnosis of other infectious agents should be established for their prevention, diagnosis and treatment. The obligations and responsibilities of the head of the department would be sexual education and sexually transmitted disease in patients and women in collaboration with NGOs. Sexual education can be performed by infectologists in secondary level health facilities throughout the country.

There should be a laboratory in this section, in which at least two biologists work, along with an infectologist trained for laboratory analysis of highly specific research (those who deviate from routine diagnostics).The department should be staffed by professional nurses who already have a practice of infectious diseases to guide counseling and work on prevention of intra-hospital infections.

The infectologist in certain time frames will submit reports to the Ministry of Health for infectious agents most responsible for morbidity and mortality in patients at this clinic (women and infants),for the current condition in the early management period of the clinic, the measures used to combat these infectious agents and the effects of the applied methods in practice.

From all stated, the duties and responsibilities of this department are: *laboratory - diagnostic, consultative, advisory and research activities.*

The proposed solutions based on detection of the current situation are given to top management for implementation following the directions for improvement of processes which can be shown by:

- matrix of duties and responsibilities by applying the solution;
- assessment of the effects of the problem in terms of a confirmations of improvement;
- assessment of the effect and orientation activities in process improvement;
- standardizing the solution in the existing solution;
- closing the improvement project and validating that the problem is identified and a responsive to new problems.

By introducing system of proposals, employees will be able to continuously provide ideas, comments, suggestions and opinions to improve the performance.

Conclusion

The survey shows that the laboratory is equipped with technical devices whose ability is underused. It is established that there is a lack of qualified staff, the doctor infectologist is insufficiently involved in the analysis, detection, diagnosis and treatment of patients. The institution does not have protocols for preventive treatment after diagnosis and has lack of kits (reagents) for faster, accurate, timely detection of certain infectious diseases. The laboratory is not equipped with information technology that would collect, analyze, and store all data obtained from patients in order to form a database that will be used for technical and scientific studies.The laboratory analysis of HPV primarily differs from others by having fast and easily available material for tests and the cost of transporting the samples are minimal. The request for improvement of processes and involvement of doctors - infectologist therein is essential to reduce the morbidity and mortality in the country. The proposed measures and solutions for business processes improvement in this paper, would mean prevention of diseases, which could significantly reduce the cost of treatment and hospitalization of patients. Preventive measures in improving the business processes would mean monitoring, control and mandatory vaccination against HPV infections in young people and their counseling for sexually transmitted diseases and their prevention. By applying the proposed solutions, this practice lab should become a reference for comparing the results with other similar laboratories worldwide as the laboratory Ruger Boshkovic in Zagreb, DKFZ - German Cancer Research Center and others. This collaboration means sharing experiences, knowledge and innovation in the treatment of cancer, counseling and lifelong learning for the medical staff.

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