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CONTENTS

- 1 **PUBLISHER, EDITOR IN CHIEF, MANAGING EDITOR AND EDITORIAL BOARD**
- 2 **TOTAL QUALITY MANAGEMENT – A REQUISITE FOR MODERN LIBRARY AND INFORMATION MANAGEMENT**
G. MAHIBHA
- 3 **THE IMPACT OF AGE, GENDER, AND EMOTIONAL INTELLIGENCE ON NEGOTIATION ETHICS IN AN EMERGING COUNTRY, VIETNAM**
NGUYEN THI LE HA, PHAM NGOC KHUE, HO NGOC MINH TAM, PHAM TRUONG BAO UYEN
- 4 **THE INCREASING ROLE OF HRIS IN FACILITATING HR FUNCTIONS IN PAKISTAN’S BANKING SECTOR**
AHMED UMAR MUHAMMAD, ZUBAIR AHMED SHAH, KAUKAB ABID AZHAR
- 5 **HOW DIGITALIZATION IS REVOLUTIONIZING RELATIONSHIPS BETWEEN CUSTOMERS AND SERVICE PROVIDERS IN THE HOSPITALITY INDUSTRY: PERSONALIZATION AND GAMIFICATION**
RICCARDO CAMPIONE
- 6 **FACTORS INFLUENCING PURCHASE DECISION OF REAL ESTATE: AN EMPIRICAL EVIDENCE FROM INDIA**
J. K. DAS, RAJENDRA NATH DATTA
- 7 **THE EFFECT OF TRADE PROMOTION ON PERFORMANCE OF SMALL ENTERPRISES IN NAIROBI CITY COUNTY, KENYA**
SAMUEL GATHU, EVANGELINE M. GICHUNGE, THOMAS SENAJI
- 8 **MACRO VARIABLES AND BANK PECULIAR VARIABLE ON PROFITABILITY: EMPIRICAL STUDY OF ISLAMIC BANKING IN INDONESIA**
TOUFAN ALDIAN SYAH, ALFATO YUSNAR KHARISMASYAH, AKHMAD DARMAWAN, JAMAL ABDUL AZIZ
- 9 **FOREIGN TRADE; AN ANALYSIS OF BILATERAL TRADE BETWEEN BANGLADESH AND CHINA**
MD. ABU ISSA GAZI
- 10 **THE EFFECT OF GREEN HUMAN RESOURCE MANAGEMENT ON EMPLOYEE GREEN BEHAVIORS IN A DEVELOPING COUNTRY, VIETNAM**
NGUYEN THI LE HA, PHAM TRUONG BAO UYEN
- 11 **THE IMPACT OF WORK ENVIRONMENT ON THE PRODUCTIVITY AND JOB SATISFACTION OF THE EMPLOYEES IN BPO COMPANIES IN QUEZON CITY**
AIRA L. ALARCON, LORIERMERLE JOY O. ARZAGA, LEODELLE B. BAGUIO, MA. SOFIA LORRAINE O SANVICTORES, JAMES R. PLATON

- 12 DEVELOPMENT OF A PREDICTIVE MODEL TO PREVENT MORTGAGE RISKS**
YIXIAO SUN
- 13 EFFECT OF THE ENVIRONMENT OF THE INTERNAL WORK ON THE EXTENT OF THE
OCCUPATIONAL EXHAUSTION: AN APPLIED STUDY ON SOME DEPARTMENTS OF THE
PUBLIC SECTOR**
SUZAN SALEH DARWAZEH
- 14 DEVELOPMENT OF A RISK MODEL FOR LENDING CLUBS**
ANRAN HUANG
- 15 DETERMINANTS OF COMMERCIAL BANKS' LENDING BEHAVIOR IN NEPAL**
BISHNU PRASAD BHATTARAI

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TOTAL QUALITY MANAGEMENT – A REQUISITE FOR MODERN LIBRARY AND INFORMATION MANAGEMENT

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Abstract:

The concept of Total quality management has its origin in Japan and later moved into the western countries and then to the developing countries during industrialization. Total quality management (TQM) has been described as a management approach to long-term success through customer satisfaction. In a TQM effort every members of an organization participate in improving the processes, products, services and the culture in which they work. The concept of quality management has been growing on a speedy pace. TQM was initially applied as a management philosophy in the manufacturing sector and due to its success impact, the concept has been applied in the service sector, currently into the educational sphere including libraries. The objective of this editorial is to present an application of total quality management (TQM) in library and information management system .This article focuses on the execution of Total Quality Management in libraries and information management system and the obstacles on the accomplishment of TQM practices in libraries.

Total Quality Management – an Overview

Quality refers to a factor which decides the superiority or inferiority of a product or service. Quality can be defined as an attribute which distinguishes a product or service from its competitor. Quality plays an indispensable role in all business and services . Every business house has to ensure they provide their product or service with superior quality to survive in their business or services and to sustain their goodwill.

TQM approach integrates three fundamental determinants viz., commitment, involvement and continuous improvement. Commitment refers to a never ending improvement in quality and services to the customer, involvement refers to involvement of every individual team members in achieving a common goal, come together as a single unit for better results and monitor continuous improvement by identifying defects and eliminating them immediately. TQM caters to customer satisfaction and facilitates in providing quality service to the users every library.

Total quality management can be referred as a management system for a customer- centric organization that binds all employees towards continual improvement. It makes use of available data, strategy and effective communication tools to integrate the quality discipline into the culture and climate of the organization. Following are the 8 principles of total quality management:

Customer- Centricity

The customer is the force which determines the level of quality of a product or service. Whatever an organization does to foster quality improvement viz., training and developing employees, integrating quality management and process design, upgradation of systems and software, Mechanization or usage of modern evaluation tool, the customer determines whether the outcome is substantial.

Employee Centricity

Employees of an organization participate in working toward common goals. Total employee commitment can only be obtained after trust has been built up between the management and employees. Employees should be provided with a desirable work environment. Modern work systems integrate continuous improvement efforts with business operations. Self-managed work teams are one of the drivers of employee engagement and empowerment.

Process Centricity

An integral part of TQM is process innovation and improvement. A process is a procedure followed in terms of inputs from internal and external suppliers and transforms them into outputs which are delivered to internal and external customers. These procedures have to be continuously monitored for evaluating performance of the processes and to eliminate deviations.

Integrated System Approach

Organizations consist of different functional specialties that are organized into vertical structures but it is the horizontal processes that interconnect these functionalities which is the basic dimension of TQM. The emphasis of TQM is making the employees understand the vision, mission, and policy on quality of the organization. Every organization has a unique work culture and it drives the organization towards excellence in its products and services. An integrated system connects business goals and individual goals and attempts to continually improve and exceed the expectations of various stakeholders.

Strategic Approach

A critical part of the quality management is the strategic and systematic approach to achieve an organization's vision, mission and goals. This process involves in identifying new strategies to enable the formulation of a strategic plan that integrates quality as a core component of the entire system.

Continual Improvement (Kaizen)

An important element of Total Quality Management is continuous process improvement. Continual improvement drives an organization to have a competitive edge and facilitates to retain both with internal and external stakeholders.

Analytical Decision Making

To ascertain the performance of an organization, statistics on standards and actual performance should be analyzed. TQM requires an organization to be continuously monitoring statistics on performance to improve accuracy in decision making and foresee the future growth and prospects.

Open Communication

Organizational change is a major component of Total Quality Management and management should play a significant role in disseminating information to employees while enforcing the changes they bring into the structure, process and strategy of the Organization. Open and fair communication would enhance the morale of employees and results in a better organizational performance.

Total Quality Management in Library and Information System

Libraries are the most important social and cultural institutions in existence, which have body of information recorded on some medium which could be retrieved when required. The basic ideology is to establish an organizational structure where desired information is retrieved when required and made accessible to the users. Creation and maintenance of such a structure and management of vast amounts of information stored in different formats- printed, audio, video requires use of the most modern management techniques.

TQM is a management philosophy that integrates all the functions of an organization to meet its goals and objectives. The implementation of TQM in library would be a tool to evaluate the quality of library services and provides ample scope for continuous improvement. Modern approaches to information management is tangled with information technologies , Internet connectivity , Cloud computing ,customer centricity, manpower issues , funding and Budgeting issues and cut throat competition between online and offline information dissemination and management .

TQM is an old concept in management but it is has gained it's applications in libraries in recent times . The application of Dr. S.R. Ranganathan's fourth law of library science, 'Save the time of the readers' is a similar phenomenon of TQM approach. In modern times, Libraries are expected to develop systems and strategies for managing and providing quality services. This requires a systematic managerial approach with higher focus on service quality. Libraries anticipate the needs of users by conducting user studies to develop critical processes of the library.

Libraries face two major challenges in the form of digital environment and increasing competition. The users are the ultimate decision maker of the quality of the services being provided by a library and information center. User satisfaction and continuous improvement of services should be the two primary goals of a library. By the application of TQM techniques, librarians have an advantage of providing premium services to the users .The application of TQM would benefit libraries in setting the objectives of the Library , integrating all the departments towards the objective, Setting quality standards , redefining beneficiaries as internal and external customers and a system for user research for continuous improvement.

Application of the techniques of TQM helps to identify service improvement techniques for academic library systems and services. Implementation of TQM in library and information services requires change in the attitude of the personnel of the library; customer segmentation in terms of the user needs; strategy on service for every user group and tackling service constraints .Support from the top management of the library are essential ingredients for enhancing the quality of a library service. Successful implementation of TQM requires deciding on the customers or the users, to whom an academic library aims to serve, assessing their needs and deciding the services required by them. Academic library has to fulfill the needs of the user after due consideration of the adequacy of staff, finance, materials and retrieval systems available with them. Working as a Team is an important aspect for the successful implementation of TQM. Adequate support from management is essential for effective implementation of TQM . TQM provides a benchmark system in identifying new strategies in libraries to cater the modern digital needs. The primary objective of academic library is to support the teaching, research and other academic programmes of its Institution. Every academic library which delivers literary

service to the customers is equivalent to a service organization. TQM concept has become an essential ingredient in the process of circulation, cataloguing, reference and retrieval services in an academic system.

Riggs (1992) summarizes the notable principles of TQM:

Manage by fact: Decisions in library to be done after careful analysis of data collected with tools such as check sheets, histograms, and Pareto charts;

Eliminate rework: library work is often considered as a laborious task, simplify the tasks and ensure its executed properly in the first instance itself to avoid duplication of the work.

Respect people and ideas: Personnel at the Library are the most valuable resources, and they should be motivated to point out speak out the problems they face.

Empower people: Library staff should be trusted and necessary authority should be given to them to take decisions for the improvement of the quality of work they perform.

Sirkin suggests some ways a library might use the principles of TQM to enhance library and information services.

- Create service brochures and information kits
- Conduct a user survey about library and information services.
- Change hours of operation
- Provide a more convenient material return.
- Simplify checkout of material
- Use flexibility in staff assignment
- Co-operate with local government.
- Ask vendors to give products demonstration
- Give new staff a complete orientation.
- Create inter departmental library advisory groups.
- Improve the physical layout of the library.
- Track complaints
- Open satellite offices

The following principles of Total Quality Management emphasized by Stella Pilling (1997) are significantly relevant for libraries,

- the emphasis on customers;
- the delegation of work;

- the involvement of staff at all levels;
- process rather than function; and
- the need for continuous improvement

TQM in library and information center may facilitate

- Better ambiance of the library for easy access to books and computers
- Inventory system of all the documents available in a library;
- Developing a database which includes records for all types of materials held in library;
- Facility for resource sharing both intra and intra departmental information
- Networking of library resources
- Minimization of user complaints;
- Optimum utilization of human resources , Computers , books and other electronic gadgets and ensuring higher productivity;
- Enhancing user friendliness
- Improved quality of services and user satisfaction
- Facilitating search through a number of tools which can provide access to universal publications
- Enhance skill and performance of end users for optimum utilization of available information systems and services.
- Better financial management
- Reduction in user grievances
- Total quality management ensures the maximum effectiveness and efficiency in Circulation , Cataloguing , Indexing and Referral Services
- It provides ample scope for the establishment of processes and system, which promotes excellence, preventing errors, waste and avoids duplication.
- It ensures every aspect of the library aligned to the needs of both the External and Internal Customers.
- Staff are motivated and have a sense of accomplishment
- Better customer/user care and Greater satisfaction.

- TQM implementation in the library enhances the goodwill of a library

Challenges and Barriers in adapting TQM in Library and Information System

Jurow and Barnard (1993) identified four barriers to the adoption of TQM in libraries:

- (1) **Vocabulary:** objections to terms such as "total," "quality," and "management" which imply that high standards are not already being met;
- (2) **Commitment:** TQM takes several years to implement and requires a long-term commitment by library professionals;
- (3) **Process:** our culture tends to be impatient and we try to solve problems quickly, contrary to TQM's careful process analysis; and
- (4) **Professionalization:** professional staff can be resistant to turning over their practices and services to what they perceive as the "uninformed whims of the customer."

Some of the barriers are mentioned below

- Inadequate knowledge of library personnel and management on TQM techniques and improper understanding of the measurement techniques used to measure the effectiveness of TQM implementation.
- TQM is a long term process as it needs a change in organizational culture which would cause resistance and financial implications.
- Lack of management commitment and management understanding on "Quality".
- Lack of awareness on the benefits of TQM implementation in the organization.
- Lack of clarity in the guideline, implementation plan and implementation methods.
- Lack of understanding about the positive results of continuous improvement.

Conclusion

Library and Information sector should focus on offering the best services possible to its users and would be ready to accept changes in its system. The ultimate objective of libraries and information sector is to satisfy the user needs. Hence libraries have started adopting TQM practices followed in service industries. As TQM has become increasingly important, there is a paradigm shift from a pure statistical view of process control towards a systematic view of managing processes. A successful TQM implementation requires a culture that actively promotes users requirements, continuous improvement, creating problem-solving system and a sense of esprit de corps among the personnel. Quality is the need of hour and good quality service mean an enhanced user satisfaction. Hence a library and Information Center should adapt Total quality Management to improve users' satisfaction. The implementation of TQM Practices requires a conceptual and attitudinal change in library professionals and a cultural Change in the organizational operations. Team work plays a significant role in implementing TQM in an academic system. The support of Management is also essential in implementing TQM practices as the entire decision making process depends on the management. Librarians as effective leaders should have a dedication in formulating a strategic plan, do necessary follow up with a commitment to continuous

quality improvement which would result in a paradigm shift in the service quality systems of academic Libraries.

References

- Bagade, S.D. ((2009), Total quality Management, Mumbai: Himalaya Publishing House.
- Borse, T.R. (2002), Total quality management in libraries, IASLIC bulletin, 47 (4)
- Retrieved from <http://www.managementstudyguide.com/total-quality-management.htm>
- Excerpted from The Certified Manager of Quality/Organizational Excellence Handbook, pages 291-292.
- Mackey, T. & Mackey, K. (1992). Think quality! The Deming approach does work in libraries. "Library Journal," 117(9), 57-61. (EJ 446 234)
- O'Neil, R. M. (Ed.) (1994). "Total quality management in libraries: A sourcebook." Englewood, CO: Libraries Unlimited. (ED 377 868)
- Butcher, K. S. (1993). Total quality management: The Oregon State University Library's experience. "Journal of Library Administration," 18(1/2), 45-56. (EJ 469 102)
- Retrieved from <https://www.lisbdnet.com/total-quality-management-tqm-in-library/>
- Chakrabarti, A. and Pramanik, A. (2014) "Total Quality Management in College Library",
- Negi, A.S. and Srivastava, J. P. (2015) "Total quality management (tqm) and its applications in academic library and information services" International Journal in Management and Social Science, available at: ijmr.net.in, pdf
- Raina, R.L. (2005), "Innovative continuing professional development programs for LIS professionals conducted by the Library at IIM Lucknow: an overview", available at: www.ifla.org/IV/ifla71/papers/042e-La-Raina.pdf
- Sarkar, D. (1998), "Elements of Total Quality Management", The Managers Handbook for Total Quality Management, New Delhi: Beacon Books, p.p. 21-30
- Clack, M. E. (1993). Organizational development and TQM: The Harvard College Library's experience. "Journal of Library Administration," 18(1/2), 29-43. (EJ 469 101)
- Deming, W. E. (1986). "Out of the crisis." Cambridge, MA: Massachusetts Institute of Technology, Center for Advanced Engineering Study.
- Riggs, D. E. (1992). TQM: Quality improvement in new clothes. "College & Research Libraries," 53(6), 481-483. (EJ 454 720)
- Riggs, D. E. (1993). Managing quality: TQM in Libraries. "Library Administration & Management," 7(2), 73-78. (EJ 461 627)
- Sirkin, A. F. (1993). Customer service: Another side of TQM. "Journal of Library Administration," 18(1/2), 71-83. (EJ 469 104)
- "Total quality management in libraries" [videorecording]. (1995). Towson, MD: American Library Association.
- Walton, M. (1986). "The Deming management method." New York, NY: Perigee.
- Jaafar, S. B. (1998). Total Quality for Libraries. Retrieved May 05, 2004, from http://www.voctech.org.bn/Virtual_lib/Programme/Regular/Library98/TQM%20for%20Libraries.pdf
- Klaassen, U. & Wiersma, C. Quality Management in Public Libraries. Retrieved May 15, 2004, from http://www.internationales-netzwerk.de/en/x_media/pdf/klawi-ex.pdf
- Chowdhary, K. (2006), "Quality: Definition and Meaning", Total Quality Management, New

Delhi: Omega Publication, p.p.19-22

Donald, R. (1997, June). Valuing Library Services. Retrieved September 29, 2004, from <http://www.insitepro.com/donald2.htm>

Ford, D., & Sare, M. (2001). Managing and Marketing Technology. Australia: Thomson Learning.

Sirkin, A.F. (1993). Customer service: another side of TQM. Journal of Library

Administration. 18(1/2), 71-83.

DiMattia, E. A., Jr. (1993). Total quality management and servicing users through remote access technology. "Electronic Library," 11(3), 187-191. (EJ 465 770)

Jurow, S. & Barnard, S. B. (Eds.) (1993). "Integrating total quality management in a library setting." Binghamton, NY: Haworth Press.

Jurow, S. & Barnard, S. B. (1993). Introduction: TQM fundamentals and overview of contents. "Journal of Library Administration," 18(1/2), 1-13. (EJ 469 099)

THE IMPACT OF AGE, GENDER, AND EMOTIONAL INTELLIGENCE ON NEGOTIATION ETHICS IN AN EMERGING COUNTRY, VIETNAM

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Abstract

The present study primarily attempts to concentrate on exploring the effect of age, gender and emotional intelligence on negotiation ethics in Vietnam, an emerging country. Target respondents are employees who are working in Vietnam banking industry. The Global Emotional Intelligence Test (GEIT) questionnaire proposed by the Global Leadership Foundation is adopted to measure the target respondents' emotional intelligence. Not only online surveys but also offline surveys are used in order to gather the necessary data. SPSS and AMOS are both employed to process the collected data and to examine if there are relationship between age, gender, emotional intelligence and negotiation ethics.

Keywords: Age, Gender, Emotional Intelligence, Negotiation, Negotiation Ethics, Vietnam.

Introduction

Ethical concern is now considered as one of the most essential issues in the negotiating process in which negotiating parties tend to take advantage of each other to obtain their favorable outcomes. The prejudice of "the best result" definition, which optimizes the specific party's desires, expectations, and strengths, executes persons to violate moral regulations regardless of other sides' interests and even mutual achievements. To hinder and then eliminate such unethical negotiating implementation, negotiators have to thoroughly comprehend the possible and necessary attributes that facilitate and encourage a particular person to take things and conditions for granted and even cheat on consciously or unconsciously. These significant attributes consist of both external and internal incentives, but the latter is evaluated as the most primary explanation. While the external factors such as financial benefits and superior managers' force are inconsistent and can be altered according to each specific situation; the internal contribution, majorly gender, age, and cultural perception, leads them to respond instinctively.

As a result of sufficient reviewing and analyzing a remarkable number of preciously profound researches relating to ethics in negotiation, it is evidently that the general of scholars has ignorantly assigned the emphasis of internal incentives, specifically the differences of age, gender, and emotional intelligence of different negotiators when perceiving and engaging conscience in negotiation procedure. In

addition to pondering where the root of these distinctive characteristics being nurtured and developed as well as digging in the pool of information. Additionally, the observation of externalities, especially financial stimuli, has motivated the researchers to discover how internal incentives-gender, age, and emotional intelligence intertwine external one-financial impulse. The current paper, thus, aims to figure out and detail the participation of different negotiators in the good conscience of the negotiation process by examining gender, age, and emotional intelligence as the concentration of the ethical issues, narrowing down to the negotiation context of an emerging country, Vietnam, and applying them into an economic sector, the banking industry where the subjects frequently dealing with financial motives and consideration.

Significance of the Study

The prominent campaign of feminism accelerates the important role of women in multiple perspectives of life, including negotiation. Since more and more women are entering into the negotiation process nowadays, they affect it and generate an increasingly varied set of outcomes. The final results will have even more fluctuation if the researchers take the age into account to analyze different negotiating behaviors of different negotiators. As mentioned earlier, the cultural environment where negotiators (both genders) nurtured and developed has a huge impact on their perception about conscience and their emotional intelligence in negotiation and thus, it can cause a tremendous effect on the whole process of negotiation and its outcomes, also. Specifically, while people in low-context cultures (typically Europeans) highly evaluate straightforward actions in negotiation and consider them as being converted morally, those experiencing high-context ones (typically Asians) will enthusiastically appreciate implicit signals and untold norms (Southeastern University, 2016). As the lifespan of a specific negotiator extends, their perception combines with environmental recognition so that they also contribute to the variety of negotiation outcomes. Consequently, by concentrating on analyzing the ethical and unethical negotiating patterns in Vietnam, a high-context culture country, the purpose of the current paper is to illustrate the new findings to assist negotiation experts, scholars, and the general public in understanding the differences of internal motives of a negotiator in negotiating procedure. In addition, the future researchers are interested in similar regards to utilize the mutually favorable gains. Moreover, the study attempts to reduce the research gaps from former studies and enhance information synthesis and analysis.

Crucially, the study aims to develop and explain the ethical issues in the negotiation context of Vietnam to indicate the differences in moral consideration of gender and age, and emotional intelligence affected negotiation ethics by financial motive. This enhances the ancient hypothesis that men and women bring different values and moral reasoning to their work, which influence their perceptions of business ethics, and specifically negotiation tactics ethics (Ladhari & [Skandrani](#), 2015). Besides, this is an insightful clarification for the theory that illustrates the proxy of gender in ethical behavior predictions in negotiation in specific conditions. (Kennedy-Kray-Ku, 2017). While there is no transparent difference between males and females when they conduct negotiation conscience in the general insurance industry (Teresa Costouros), this paper is considered an important expansion for similar topic conducting in different business segmentation. This paper also aims to show the concern for age prejudice toward older works regarding their job performance and opportunities (Finkelstein et al., 1995), and emotional intelligence is an important prediction for negotiation and ethics (Goleman, 1995). Not only following ancient negotiation scholars' suppositions, but this proposal also enriches the abandoned concern and applies it into a more

rational context where both internal and external incentives interact clearly. Besides, the findings, play as negotiation fundamentals in ethical behavior assumption and prediction in each particular circumstance, as a result, they assist in analyzing and constructing effective attributes to gain success in the negotiating procedures regarding taking moral pursuit into account. This paper intends to characterize how gender, age, and emotional intelligence enforce Vietnamese banking workers to manifest ethical behaviors in negotiation. Therefore, it anchors the foundation of dogmatic knowledge and facilitates further investigation from negotiators and scholars.

Literature Review

Negotiation

“Negotiation is the process of exchange that provides the highest likelihood of satisfying the needs of both parties while maintaining the relationship.” (Gosselin, 2007). One side argues for their benefits with reasonable words and skills. The other side, meanwhile, also applies the same methods, to get what they want. Both sides joining in the disputes have to make concessions to gain the final most favorable agreement. This process is called negotiation. Tom Gosselin started writing the book by discussing the deep root of the negotiating process, which was later confirmed as “conflict”. In everyday activities, individuals often come up with situations when they have to argue with others to gain the wants. This creates conflict. As usual, to get through the disputes, people “learn to share, compromise or suspend fulfillment of the needs” (Gosselin, 2007). The writer adds “Negotiation is a process of exchange to resolve conflict and reach a mutually beneficial agreement.”

Another author, Jeff Shelstad, also agrees on the point that negotiation is the ultimate solution to the conflict. It is emphasized that in order “to avoid conflicts to escalate, people need to find the root causes of the problem, then develop methods to mitigate negative outcomes” (Shelstad, 2007). Negotiation, therefore, is considered the most effective means of resolving conflicts. To be specific, conflict is defined as “a process that involves people disagreeing” (Shelstad, 2007). There are intrapersonal conflict, interpersonal conflict and intergroup conflict. All these conflicts are not at all bad if dealt with wisely and negotiation is mentioned as the common and effective means. It is “a process whereby two or more parties work toward an agreement.”

Age, Gender, and Emotional Intelligence Differences in Negotiation

Age and Negotiation

The study of Hillary Anger Elfenbein and her colleagues about essential potentials that lead to different negotiation outcomes in 2008 indicates observable characteristics, as including age, is one of the five most prominent factors. To fulfill the curiosity of how personal background characteristics, have an impact on the negotiation process, they subjected a group of nearly 150 MBA students to a battery of surveys. By applying the Round-robin method, which assigned all teams to meet all other teams a fixed number of times (Rasmus V. Rasmussen and Michael A. Trick), the participants were divided into groups of four or five to assess how consistently individuals behaved across several negotiations. The result of this study illustrates the differences among negotiators do account for approximately fifty percent of the differences in the negotiation outcomes. While unchangeable personal traits such as gender, ethnic background, and physical attractiveness have slight or no precise correlation in different negotiation results, age, as a changeable variable does have a significant effect (Elfenbein et al., 2008). Specifically, this survey

exhibits background factors that change partners' judgments—for example, partners feel worse when competing against older ones, as a result, the age perception may alternate outcomes and hinder unethical behaviors of a specific negotiator.

Besides, a profound finding regarding the relationship between age and negotiation is that the older the negotiators get, the fiercer age stereotypes they will face in negotiation (Rosen & Jerdee, 1977). To be more specific, if older workers negotiate for training opportunities and job promotion, they will be underestimated because of the aging belief stating older workers have less potential ability to further develop at work compared to their younger colleagues (Finkelstein et al., 1995). From the meta-analysis conducted in 1995, Finkelstein and his partners also demonstrated the prejudice toward aging adults when the older participants were less preferable when negotiating for job promotions because of their lower ability to learn to catch up with new technologies and update requirements. A similar finding was figured out by a meta-analysis of Waldman and Avolio in 1986. The survey proved the negative relationship between job performance perception and age, more specifically, as age increased, there would be a minor decrease in perceived job performance, showing the age bias toward older workers. However, when productivity indices participate in the evaluation process, older workers tend to be more favorable because of their working experience. At a narrower scale, the study of Rhonda Oliver in 2008, which sampled 20 classrooms (10 adult and 10 child ESL classes) and 32 NS-NNS dyads (16 adult and 16 children) illustrated the age differences in negotiation and feedback on classroom a pair work when pointing out the age of the learners and the context of exchange have a positive relationship with the pattern of inter-action giving negative feedback at different interaction context.

Gender and Negotiation

“Women seem to be more responsive to the context of a negotiation and are less likely to fail to reach an agreement than men” (Eckel et. al., 2008). In the research, a dictator game on money was conducted: one side offered a division and the other decided whether to accept it or not. In case no agreement attained, both sides will receive no rewards. The results of the games showed that women are less likely to “ask for more” in negotiation, compared to men.

Another researcher records, from historical data, that women “would be relationship-oriented cooperators, and men would be analytically minded competitors” (Bowles, 2012). This clarifies the idea that men are more effective at defining and getting the value they desire. Women, on the other hand, have the tendency to be more reliable and careful negotiators. They have the ability to ease the conflict or anger happening during the argument (Maoz, 2009). However, these traits of both men and women so far have not been proved as “a constant” in negotiation. In addition, women are more cooperative than men. “Male negotiators are expected to be relatively self-interested and competitive” (K Ryan, 2013). Although not consistent at times, thanks to these standard characteristics found in the two genders, organizations can assume and make more effective choices of people joining negotiating sections, which helps improve the argument results.

Bowles concludes the general findings from her research and others', stating that in negotiation, people often use gender stereotypes as tactics to understand the counterparts; however, under different contexts and circumstances, the opposite sides would react differently (Bowles, 2012). They can choose to act as usual or not follow the gender stereotypes at all. Stereotypes of genders, hence, can be used

as a means of understanding counterparts but not always an ultimate tool.

Emotional Intelligence in Negotiation

“Emotional intelligence is a vital measure of success in a person's work and personal life” (Goleman, 2002). Besides IQ, EQ is highly recommended when it comes to measures of an individual's success. There is research, by Day and Carroll, finding out a positive relationship between decision making and perception of emotions by using the Mayer, Salovey, and Caruso Emotional Intelligence Test.

“Emotions play a very important role in the search for dispute resolution” (J. Kelly & Kaminskienė, 2016). As long as negotiators can control the feelings well, they will make fewer mistakes. With a stable emotional condition, they are sure to make wise decisions compared to the counterpart with an unstable emotional state. Particularly, an individual who is feeling scared before a meeting is likely to become less self-confident in the face of arguments. In contrast, a person with a relaxing attitude will easily catch up with the flow of the negotiation without being left behind. Another example comes from anger control. Whenever facing up to drawbacks or disadvantageous conditions introduced by the counterparty, negotiators can be under great pressure. The opposite side will take advantage of this and gain a more beneficial position if the emotion is not controlled well. Solving the problem of negative emotions is a long-term practicing process. Particularly, developing self-awareness, self-management, social awareness, and relationship management are the essential practices of emotional intelligence (Bradberry & Greaves, 2009). For negotiators, they must take into concerns the appreciation, affiliation, autonomy, status, and role of the counterparts (J. Kelly & Kaminskienė, 2016). Only by doing so can individuals strengthen their emotional control ability.

In “Emotional Intelligence” book publishing in 1995, psychologist Daniel Goleman had exhibited the positive relationship between high EQ score and successful negotiators. Specifically, the research had indicated that participants who possessed high cores on emotional comprehension and manipulation were prone to gain more remarkable outcomes in negotiation. Interestingly, emotion control and display, an important aspect of EQ, represent significant impacts on negotiation outcomes (Shapiro and Fisher, 2005). The past work demonstrated not only how negative emotions can impede integrative negotiations, but also how positive emotions can enhance the negotiation process, pointing out that emotions play a role in all negotiation.

Moreover, the laboratory experimental design with 202 participants to test the hypotheses of emotional intelligence and negotiation outcomes interaction conducted by Kihwan Kim, Nicole L. A. Cundiff, and Suk Bong Choi in 2014 also indicate the similar result to the former research. The study had indicated the correlation between EQ and “beneficial” negotiation outcomes in which manifesting the joint gains, trust-building, and long-term personal relationship enhancement. Constructively, this research pointed out the drawbacks of emotional intelligence on facilitating the concerns and desires of a specific party in the negotiation. Since emotional intelligent negotiators often take emotional rapports into account to ignite and strengthen trust and relationships for future work, they will leverage unnecessary concession strategies so that they can suffer the vulnerability of sacrificing their interest as the expense for their counterparts' desires.

Ethics

Theoretically, ethics is a field study of philosophy, whose major concern is morality (Garrett &

Klonoski, 2007). In conforming to the prior study of Fieser (2000), the philosopher categorized ethical theories into three principal areas: metaethics, normative, and applied ethics. On the first standing, a metaethics study seeks ways to rationale the drivers and the meaning of human's ethical principles. Many theorists had discussed ethics from this frame. For example, Thompson (2008), he had addressed ethics as a subject, which investigates the righteousness of choice people made, and the methods they attempt to justify their actions. In a simpler aspect, according to Fajana (2006), ethics tries to explain the motivation behind moral and immoral conduct. At the second level, normative ethics specifies moral standards and helps provide a yardstick for ethical conduct by finding the answer to the question: "What should we do?" (Garrett & Klonoski, 2007). Güçlü, Uzun, Uzun & Yolsal (2003) had taken this approach and come up with their ethics definition "it is an assemblage of standards, rules, values and customs that adequately regulates the human relationships among people living in a society, from one to another; how people should act towards each other as well as how transparent institutions should behave". Likewise, Huberts, Kaptein, Lasthuizen (2007) have furthered on these previous theories and indicate that ethics represents the overall accumulation of values and norms, acting as benchmarks or guidelines about evaluating the rectitude of individual behavior. Concerning applied ethics, the branch deals with respective dimensions of morality and coins principle for issues inside these specific realms. Recently, this field receives great consideration from researchers, proved by the numerous publishing in this area. Applied ethics consists of many familiar subjects, such as business ethics, ethical leadership, etc.

Generally, ethics interests in studying human behaviors and anticipating the orientation of their actions (Malloy, 2003). In this study, our main focus is ethics in negotiation at the workplace. Hence, this concept would mean what is expected behaviors of an employee when he or she participates in a deal.

Age, Gender, and Emotional Intelligence Differences in Ethics

Age and ethics:

As reviewing the impacts of demographic stimulus in ethics, various researchers discovered that age affects the propensity of moral behavior to a great extent. For example, it is asserted that older employees have less tolerance for deception when compared to younger peers (Anton, 1990). Later on, Dawson (1997) discovered that the variance in ethical actions caused by age is more significant than gender. Likewise, a similar trend about the positive relation between age and ethics is also found in the report of Robinson, Lewicki, and Donahue (2000). Although empirical ethics put forward a consistent concept, pragmatic evidence suggests contrary orientations. On the one hand, a survey made by Perry, Duffy, Nixon & Robison (2005) on the ethics commitment of University students in the U.S. revealed that older respondents stand a lower chance of committing unprincipled opportunities. Another study about gender and morality of the Canada insurance industry had found out that generally, older brokers are more ethical than younger associates in decision making (Costouros, 2017). On the other hand, some researchers apparently indicate an adverse tendency. To be more specific, findings by Pierce (2014) summarize that the moral character of employees tends to go down with age. Similarly, the study by Nguyen, Mujtaba, Tran, Tran (2013), which compared the ethics score of business students and working adults, also reported a steady trend. After careful analysis, the researchers concluded that the Vietnamese business students score higher than the fellow working adults in ethical maturity scores. In conclusion, the connection between age and ethics seems to vary diversely between different countries. This research aims to foster the findings of

the Vietnam case and advance this theory further in the realm of negotiation ethics.

Gender and Ethics

Men and women somehow react differently in ethical decisions making. Women appear to be slightly more ethical than men are (Pierce, 2014). Jason points out, however, that this assumption is not consistent over time because people may react differently in different contexts due to various external factors. The study of Leslie in 1995 also contributed to the hypothesis that women with their special traits play an important role in improving the ethical climate of an enterprise. The research points out that since women have an instinctive sense of situation sensitivity with feminine approaches that regard others' emotional and personal relationship, the probability of a woman executing ethical issues in a firm is much higher compared to her male fellow.

On the other hand, a research by Teresa Costouros shows a different result: there is not much difference in ethical behaviors between males and females. The factor that needs more consideration in terms of ethical decision making is age (Costouros, 2017). Another research by Kevin et. al. in 2011 indicates that though men are more competitive compared to women, those scoring high on the hyper competitive scale all seem to employ unethical bargaining behavior. However, women who have high scores on personal development competitiveness tend to practice more accepted bargaining behaviors (Westbrook et. al., 2011).

Emotional Intelligence and Ethics

Emotion is of importance to rational ethical decision process and it depends on the individual state of feelings that result in better or worse ethical decisions (Alice & Linda, 2001). The researchers have found out that there is a relationship between emotional intelligence and ethics. "Composite EI score as well as the EI subscale of decision making were both significantly related to the relativism ethical perspective" (Hopkins & R. Deepa, 2018). Furthermore, self-emotional appraisal, others' emotional appraisal, use of emotion and regulation of emotion relate, either positively or negatively, to ethical behaviors namely self-interest, rules and virtue based (Bhuvaneswari & Natarajan, 2018). Emotional intelligence is also mentioned as a predictor of both individuals' ethicality and their perceptions of others' ethicality (Magnus et al, 2008). This acts as an implication for workplace productivity. Particularly, employees with high emotional intelligence are better at perceiving their fellow's feelings and ethicality, hence making more ethical decisions (Magnus et al, 2008).

Since the 1995 publication of Daniel Goleman's bestseller, emotional intelligence education has been considered as a dominant strategy for ethical society construction. The study indicated the emotional intelligence effects on the ethically educational environment, i.e. children who received emotional intelligence education (such as emotions handle, stress control, and the argument go) tend to less engage in bullying behaviors and more likely to cooperate and collaborate. The past work also showed a wider range of emotional intelligence applications in ethics in several different aspects such as healthcare and management. If emotional intelligence were cultivated among leaders and doctors, the research found more caring workplaces and more compassionate healthcare which the participants accelerated more ethical behaviors and concerns.

Negotiation Ethics

Although ethics is a long-standing field of study, there is a limited number of researches undertaken

to argue about the nature of ethical and unethical conduct at the bargaining table. Gunia (2019) also shares the same viewpoint in his research, he stated that numerous attempts have been made about the ethics of non-negotiation issues. Nevertheless, there are very few papers about the relation between morality and negotiation have been published. Amongst these deficient resources, discussion posted by Reitz et. al. (1998) has made a constructive contribution to this field by laying the foundation for negotiation ethics researches. The group of analysts had highlighted the common yardsticks that negotiators used to guide their moralities, which consists of the following rules:

- Golden rule: “Do unto others as you would have them unto you”
- Universalism: “People are not to be used as a means to an end”
- Utilitarianism: “Do the greatest good for the greatest number of people”
- Distributive Justice: “Everyone is better off because of this act”

Later on, many critics have argued about ethics in bargaining based on this background. For example, a prior study of Cohen (2002) proposed that the root cause of ethical conduct in bargaining is simply because the negotiator perceived that the counterparty should not be exploited for immoral objectives, and they deserve to be treated with respect. In conforming to an article by Kevin (2004), he indicated that ethical negotiators had transformed from an individual conforming to morality because of legal inception to the one who values the interests of the whole organization in the long run. Moreover, a book by Hinshaw (2011) had generalized the term negotiation ethics as "refraining from making fraudulent misrepresentations."

Concerning the negative effect of fraudulent behavior in bargaining, countable studies have proved that negotiators could leverage the benefits of their dishonesty for a fleeting moment; however, such actions have an ultimately destructive effect after all (Schweitzer et. al., 2005 and Rogers et. al., 2016). In the former paper of Reitz, et. al (1998), there are four underlying costs of immoral bargaining, specified as rigor in future negotiations, strained relation with partners, besmirched stature, and loss of future opportunities. As for the counterparties, some impacts that they could face include a desire for vengeance (Boles et. al., 2000), as well as diminished financial outcomes (Croson et. al., 2003). Therefore, organizations need to promote and control the ethical conduct of their employees to minimize the loss and secure the maximum earning they could have.

Age, Gender, Emotional Intelligence and Negotiation Ethics

There is a notable number of works of literature exploring the relationship among the two demographic factors i.e. age and gender to emotional intelligence. A meta-analysis of Schutte et. al. in 2007 proved the positive relationship between age and EI when reporting the older participants' credit higher emotional intelligence score compared to the younger ones. When examining 405 participants aged between 22 and 70, in the same year, Chamorro-Premuzic T and his colleagues also brought out the same finding emphasizing that EI increased respectively as age increased.

Gender is a transparent indicator of emotional intelligence prediction in which women surpassed men in all areas of emotional intelligence (Mayer et. al., 1998). They are more empathetic than men (Mehrabian et. al., 1998), and have a higher ability to classify facial emotions and distinguish facial features (Thayer & Johnsen, 2000). High EI among women has been attributed to biological and social factors (Trakis et al, 2008). The biological factors include the larger size of the brain area, which processes emotions, in women

compared to men (Gur et. al., 2002).

Emotional intelligence does not only have a remarkable impact on job performance in general and negotiation in particular (Daniel Goleman, 1995), but it also influences the link between ethical understanding and ethical behavior (Bay and McKeage, 2006). Thus, emotional intelligence is a mental ability to reason about emotions and to, therefore, make better decisions, including perhaps, ethical decisions (Elizabeth A. McBride, 2010). While some previous scholars illustrate how age affect emotional intelligence (Schutte NS et al., Chamorro-Premuzic T 2007) and exhibit the relationship between gender and emotional intelligence (Mayer, Mehrabian, and Thayer), some also point out the two-side relationship between EI and negotiation ethics (Goleman 1995, Gaudine & Thorne 2001, and Grant 2014), the researchers propose the hypothesis that age, gender, and emotional intelligence do have an impact on ethics of negotiation.

Hypothesis Development

The primary purpose of this paper is to explore the effects of age, gender and emotional intelligence on negotiation ethics in Vietnam banking industry. Previous researchers have found out the relationship between age, gender in negotiation as well as age, gender differences in ethics generally. Some points out older respondents stand a lower chance of committing unprincipled opportunities (Perry et. al., 2005). Other researchers, adversely, emphasize that the moral character of employees tends to go down with age (Pierce, 2014). In terms of gender, women are found relationship-oriented (Hannah, 2012) and less competitive than men (K Ryan, 2013) in negotiation. They are also more likely to conduct ethical behaviors and decisions than men are (Pierce, 2014; Westbrook et. al., 2011). Emotional intelligence also plays an important role in personal success and dispute resolutions, especially in negotiation (Goleman, 2002; J. Kelly & Kaminskienė, 2016). There are researchers finding out a connection between emotional intelligence and ethics, too.

So far there have been no empirical researches on discovering the effects of age, gender and emotional intelligence in negotiation ethics in an emerging country, Vietnam, particularly in the banking industry. On the basis of the review of related literature and studies, the research hypotheses are established as follows.

Hypothesis 1: The older the Vietnamese workers in the banking industry are, the more unethically they behave.

Hypothesis 2: Vietnamese woman bank workers tend to behave more ethically in negotiation compared to man fellows.

Hypothesis 3: Vietnamese bank workers who score high in the emotional intelligence index are more likely to act ethically in the negotiation process.

Research Methodology

Research Paradigm

Bell, Bryman, Harley & Bryman (2019) had categorized the research technique into two types: inductive and deductive. According to the group of writers, the difference between the two categories lies in their distinct purpose. The deductive approach is designed to test a theory or hypothesis and explore the causation of an issue. Meanwhile, the inductive study attempts to prove an undiscovered phenomenon or

formulate a new theory from data collected by their researches. Deductive research usually always starts with a hypothesis while inductive one begins with findings and observation. Accordingly, this paper follows the deductive approach.

Commonly, it is perceived that deductive reasoning is accompanied by quantitative study while inductive rationale will go along with qualitative study. To test the correlation between age, gender and negotiation ethics as mentioned in the hypotheses, quantitative research will be conducted in this study.

Research Method

Business research methods can be categorized in several ways, depending on the kind of their kind of approach, i.e. qualitative and quantitative (Bernard, 2012). Using the quantitative approach, researchers can apply the four following types of design, namely descriptive design, experimental design, correlational design, and causal-comparative design. As indicated by Bernard (2012), the correlational study focuses on the exploration and observation of relationships amongst variables. Consequently, the mentioned hypothesis of this paper implies that this research is a correlational study.

Data Collection

Both online and offline surveys are utilized in order to provide the best convenience for interviewees. Some hard copy versions of the questionnaire will be printed and handed out to banking staff at some authorized banks with the support of the seniors. On the other hand, online survey with the aid of google form will be most appropriate in the current situation. A google form of the questionnaire whose content is identical to the hard copy version. To ensure a high response rate of target respondents answering the online google form, the assistance from senior staff such as managers is asked. Both kinds of data collection are conducted on a voluntary basis and data is collected with their notice.

The First Phase of Data Collection

The purpose of this phase is to consult the banking specialist about the logic of the drafted questionnaire and make appropriate corrections to finalize the survey. An in-depth interview will be conducted with 10 seniors in the banking industry. The desired purpose is to test the compatibility of our framework with the banking veteran in terms of perceptions and experience. If the version is not suitable, changes will be made, and the last version should be approved by these specialists before conducting the research on a large scale. Afterward, the initial questionnaires would be revised to complete the official survey inquiries.

The Second Phase of Data Collection

The second phase of data collection is to conduct the survey in the quantitative approach employing questionnaires to test the hypothesis on a large scale. This research will be built based on the theory of Clark and Clark (1996), which certified the use of Personal Business Ethics Scores (PBES) in testing employee's morality. In the study, gender and age are independent variables that affect the PBES, which are dependent factors in negotiation. Besides, in order to test the hypothesis concerning emotional intelligence, the Global Emotional Intelligence Test (GEIT) questionnaire proposed by the Global Leadership Foundation is adopted. There would be 40 questions in total, and participants' emotional intelligence will be analyzed based on the 4 quadrants Emotional Intelligence Competency Model of Goleman (2002).

Data Analysis

After the necessary data being gathered, the respondents will be rechecked manually to eliminate the

unqualified candidates. Then, the filtered data will be processed by SPSS to import, examine, and polish the dataset before analysis. The progress will start with the categorization of data with Cronbach's Alpha for 3 variances of this research model. Then, the content will go through Exploratory Factor Analysis (EFA) testing to analyze the hidden connections between the set of variables. Eventually, the processed information will go through Confirmatory Factor Analysis (CFA) and Standard Error of the Mean (SEM) to measure the reliability as well as the validity of the measurements. As CFA and SEM are applied, AMOS will be employed to examine the research framework. AMOS is useful for modeling the relational equation, making an estimation, accessing the normality, summarizing the variable, etc.

Conclusion

With the insightful appreciation of prior researches proposed and demonstrated the differences between gender, age, and emotional intelligence of specific negotiators in ethical behavior manifestation in negotiating process, the researchers attempt to dig into the banking industry in an emerging country that is Vietnam to characterize and clarify the impact of internal approaches to negotiation ethics with the three prominent components. The present study is expected to contribute to the national and international knowledge for the following consultation to tickle the curiosity of negotiation investigation as well as construct the foundation for subsequent exploration to optimize the negotiating process. Firstly, the study concentrates on how age, gender, and emotional intelligence have a huge impact on ethics in negotiation, it leaves the question for further researches to exhibit other negotiation ethics' determinants such as education, marital status, and religion. Secondly, as Vietnam banking section is the focus of the study, this work neglects the role distinctive gender in negotiation in other economic parts and generates unnecessary stereotypes for those working in the financial arena. The study findings also specify conclusions in Vietnam context only, thus, it abandons profound investigations in another country, a different micro-scale, or even at a macro-scale, internationally.

References

- Adam Grant (2014), The Dark Side of Emotional Intelligence, from: <https://www.theatlantic.com/health/archive/2014/01/the-dark-side-of-emotional-intelligence/282720/>
- Alice P. Gaudine & Linda Thorne. Emotion and Ethical Decision-Making in organizations. Journal of Business Ethics, May 2001. DOI: 10.1023/A:1010711413444
- Amber Cotton (2016), Examining the Intersection of Gender and Age on Backlash Effects in Negotiations
- Ana Chang (2020), In Negotiation, How Much Do Personality and Other Individual Differences Matter? From: <https://www.pon.harvard.edu/uncategorized/in-negotiation-how-much-do-personality-and-other-individual-differences-matter/>
- Anton R.J. (1990), Drawing The Line: An Exploratory Test Of Ethical Behavior In Negotiations.
- Bay, D. & McKeage, K. (2006). Emotional intelligence in undergraduate accounting students: preliminary assessment. Accounting Education: an International Journal, 15(4), 439-454.
- Bell, E., Bryman, A., Harley, B., & Bryman, A. (2019). Business research methods. Oxford: Oxford University Press.
- Bernard, H. R., & Bernard, H. R. (2012). Social research methods: Qualitative and quantitative approach.
- Boles, T. L., Croson, R. T., & Murnighan, J. K. (2000). Deception and retribution in repeated ultimatum bargaining. Organizational Behavior and Human Decision Processes, 83, 235-259.

- Bowles, Hannah Riley (2012). Psychological Perspectives on Gender in Negotiation. HKS Faculty Research Working Paper Series RWP12-046, John F. Kennedy School of Government, Harvard University.
- Bradberry & Greaves, T. (2009). Emotional Intelligence 2.0. Talentsmart: San Diego.
- Bhuvaneswari, R. & Natarajan, Dr. (2018) The impact of emotional intelligence on work performance - An empirical investigation, Journal of Management Research and Analysis, 5(2),154-160.
- Catherine, Angela & Philip (2008), "Gender and Negotiation in the Small: Are Women (Perceived to Be) More Cooperative than Men?", Negotiation Journal, Vol. 24, No. 4, pp. 429-445, 2008
- Chamorro - Premuzic T, Bennett E, Furnham A. (2007) The happy personality: Mediation role of trait emotional intelligence. Personality Individual Differences 2007; 42: 1633-9.
- Clark, J.W. & Clark, S.J. (1966), Religion and Moral Standards of American Businessmen, Cincinnati: Southwestern Publishing Co.
- Cohen, J. (2002). The Ethics of Respect in Negotiation. Negotiation Journal, 18(2), 115-120.
- Costouros T. (2017). Gender and ethical decision-making in the general insurance industry. Journal of Behavioral Studies in Business.
- Croson, R., Boles, T., & Murnighan, J. K. (2003). Cheap talk in bargaining experiments: Lying and threats in ultimatum games. Journal of Economic Behavior & Organization, 51, 143-159.
- Damodar Suar and Jyotiranjana Gochhayat (2014) Influence of Biological Sex and Gender Roles on Ethicality.
- Dawson, L. M. (1995), Women and Men, Morality and Ethics.
- Dawson, L. M. (1997). Ethical differences between men and women in the sales profession. Journal of Business Ethics, 16(11), 1143-1152.
- Day, A., Carroll, S. Using an ability based-measure of emotional intelligence to predict individual performance, group performance, and group citizenship behaviors. Personality and Individual Differences 36, 1443-1458, 2004
- Deutsch, K.W. Nationalism and social communication. Cambridge, Mass.: The M.I.T. Press, 1966.
- Eckel, C., de Oliveira, A., & Grossman, P. (2008). Gender and Negotiation in the Small: Are Women (Perceived to Be) More Cooperative than Men?. Retrieved 1 May 2020, from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1843338
- Elizabeth A. McBride (2010), "Emotional Intelligence And Cognitive Moral Development In Undergraduate Business Students", Capella University
- Emotional Intelligence Test - Global Leadership Foundation. (2020). Retrieved 9 May 2020, from: <https://globalleadershipfoundation.com/geit/eitest.html>
- Fajana, O. (2006). Human resource management: An introduction. Lagos: Labofin and Company.
- Fieser, J. (2000). Metaethics, normative ethics, and applied ethics. Australia: Wadsworth/Thomson Learning.
- Finkelstein, L. M., Burke, M. J., & Raju, M. S. (1995). Age discrimination in simulated employment contexts: An integrative analysis. Journal of Applied Psychology, 80(6), 652-663.
- Garrett, T., & Klonoski, R. (2007). Business ethics.
- Goleman, D., Boyatzis, R. & McKee, A. (2002). Primal Leadership: Realizing the Importance of Emotional Intelligence, Harvard Business School Press: Boston.

- Gosselin, T. (2007). *Practical Negotiating*. John Wiley & Sons, Inc.
- Güçlü, A., Uzun, E., Uzun, S., & Yolsal, U. (2003). *Philosophical Dictionary*.
- Gunia, B. (2019). Ethics in Negotiation: Causes and Consequences. *Academy Of Management Perspectives*, 33(1), 3-11.
- Gur RC, Gunning-Dixon F, Bilker WB, Gur RE. Sex differences in temporo-limbic and frontal brain volumes of healthy adults. *Cereb Cortex* 2002; 12: 998–1003.
- Hatcher, L. (1994). *A Step-by-Step Approach to Using the SAS® System for Factor Analysis and Structural Equation Modeling*.
- Heather Craig (2020), The Theories of Emotional Intelligence Explained, from: <https://positivepsychology.com/emotional-intelligence-theories/>
- Hillary Anger Elfenbein (2008), Individual Differences in Negotiation: A Nearly Abandoned Pursuit Revived.
- Hinshaw, A. (2011). Teaching Negotiation Ethics. *SSRN Electronic Journal*. doi: 10.2139/ssrn.1748710
- Hopkins, M. & R. Deepa. (2018). The impact of emotional intelligence on ethical judgment, *Journal of Management Development* 37(9). DOI: 10.1108/JMD-02-2018-0045
- Huberts, L. W. J. C., Kaptein, M. & Lasthuizen, K. M. (2007). A study of the impact of three leadership styles on integrity violation committed by police officers. *Policing: The International Journal of Police Strategies and Management*, 30(4), 586 – 607.
- Jason R. Pierce (2014). Sex & Gender in ethical decision making: A critical review and recommendation for future research.
- Katie Shonk (2019), Emotional Intelligence as a Negotiating Skill: Does emotional intelligence impact your success at the negotiating table?. From: <https://www.pon.harvard.edu/daily/negotiation-skills-daily/the-limits-of-emotional-intelligence-as-a-negotiation-skill/>
- Kelly J., Edward & Kaminskienė, Natalija (2016) “Importance of Emotional Intelligence in Negotiation and Mediation” . DOI: 10.1016/j.icj.2016.07.001
- Kevin, G (2004). Ethics: The New Canon of Negotiation Ethics, 87 *Marq. L. Rev.*
- Kevin, Steven & Walton (2011). Gender, Competitiveness and unethical negotiation strategies, *Gender in Management*, Volume 26 Issue 4.
- Kihwan Kim, Nicole L. A. Cundiff, & Suk Bong Choi (2014), Emotional Intelligence and Negotiation Outcomes: Mediating Effects of Rapport, Negotiation Strategy, and Judgment Accuracy.
- Magnus, J., Joseph, J., Viswesvaran, C. & Deshpande, S. The role of emotional intelligence in integrity and ethics perceptions. *Research on Emotion in Organizations*.
- Malloy, D.C. (2003). Understanding the nature of ethics, and purposes of business health care and law. *The Sport We Want*. Canadian Centre for Ethics in Sport. 59 –79.
- Maoz, I. (2009). The women and peace hypothesis? The effect of opponent negotiators' gender on the evaluation of compromise solutions in the Israeli-Palestinian conflict. *International Negotiation*, 14, 519-536.
- Mary, Teresa & Lawrence (2012). A Cross-Cultural Study of the Influence of Country of Origin, Justice, Power Distance, and Gender on Ethical Decision Making.
- Mayer, J.D. & Mitchell, D. C. (1998). Intelligence as a subsystem of personality: From Spearman's g to contemporary models of hot processing. In W. Tomic & J. Kingma (Eds.), *Advances in cognition and educational practice*, 5, 43- 75. Greenwich, CT: JAI.
- Mayer, J. D. & Salovey, P. (1997). What is Emotional Intelligence? In P. Salovey & D.J. Sluyter (Eds.). *Emotional Development*

and Emotional Intelligence. New York: Basic Books.

Mehrabian, A., Young, A., & Sato, S. (1988). Emotional empathy and associated individual differences. *Current Psychology Research and Reviews*, 7, 221-240.

Nguyen, L., Mujtaba, B., Tran, C., Tran, Q.. Sustainable Growth and Ethics: A Study of Business Ethics in Vietnam between Business Students and Working Adults (2013). *The South East Asian Journal of Management*, 7(1), 41-56.

Perry, G., Duffy, P., Nixon, C., & Robison, L. (2005). An Exploration of Factors Influencing Ethical and Unethical Behavior in Negotiations. *Journal of Agricultural and Applied Economics*, 37(1), 1-20.

Pierce, J. (2014). Sex & gender in ethical decision making: A critical review and recommendations for future research. *Academy of Management Proceedings*, 2014(1).

Rasmus V. Rasmussen & Michael A. Trick, Round robin scheduling - a survey.

Reitz, H., Wall, J., & Love, M. (1998). Ethics in negotiation: Oil and water or good lubrication?. *Business Horizons*, 41(3), 5-14.

Rhona Oliver (2000), Age Differences in Negotiation and Feedback in Classroom and Pairwork. *Language Learning*, 50(1), 119-151.

Ladhari, R., & [Skandranj](#), H., (2015). Effect of Gender on Perception of the Ethical Appropriateness of Negotiating Tactics. [Journal of International Business and Economics](#) 15(4), 7-16.

Riley Bowles, H. (2012). *The SAGE Handbook of Gender and Psychology*.

Robert J. Robinson, Roy Lewicki, Eileen M. Donahue (2000). *Journal of Organizational Behavior*, 21(6), 649-664.

Rogers, T., Zeckhauser, R., Gino, F., Norton, M. I., & Schweitzer, M. E. (2016). Artful paltering: The risks and rewards of using truthful statements to mislead others. *Journal of Personality and Social Psychology*, 112, 456-473

Rosen, B., & Jerdee, T. H. 1977. Too old or not too old? *Harvard Business Review*, 55, 97-106.

Ryan, K. M. (2013). *The SAGE Handbook of Gender and Psychology*.

Schutte NS, Malouff JM, Thorsteinsson EB, Bhullar N, Rooke SE (2007). A meta-analytic investigation of the relationship between emotional intelligence and health. *Personality and Individual Differences*, 42, 921–933.

Schweitzer, M. E., DeChurch, L. A., & Gibson, D. E. (2005). Conflict frames and the use of deception: Are competitive negotiators less ethical? *Journal of Applied Social Psychology*, 35, 2123-2149.

Shapiro and Fisher (2005), *Beyond reason: Use emotions as you negotiate*. New York: Penguin Book.

Shelstad, J. (2007). *Organizational Behavior*. Saylor Academy.

Shonk, K. (2019). A Negotiation Preparation Checklist. Retrieved 1 May 2020, from <https://www.pon.harvard.edu/daily/negotiation-skills-daily/negotiation-preparation-checklist/>

Shonk, K. (2020). 5 Win-Win Negotiation Strategies. Retrieved 1 May 2020, from <https://www.pon.harvard.edu/daily/win-win-daily/5-win-win-negotiation-strategies/>

Sica M., Chockalingam V., Jacob J., Satish P. D., (2008). The role of emotional intelligence in integrity and ethics perceptions. *Research on Emotion in Organizations. Emotions, Ethics and Decision-Making*, 4.

Southeastern University (2016), *Intercultural Communication: High- and Low-Context Cultures*, from

<https://online.seu.edu/articles/high-and-low-context-cultures/>

Thayer, J. & Johnson, B. (2000). Sex differences in judgment of facial affect: a multivariate analysis of recognition errors. *Scandinavian Journal of Psychology*, 41, 243-246.

Thompson, M. (2008). *Ethical theory*. London: Hodder Education.

Trakis Stami et al. (2008), Demographic predictors of emotional intelligence among radiation therapists, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5986065/#jmr277-bib-0020>

Waldman, D., & Avolio, B. (1986). A meta-analysis of age differences in job performance. *Journal of Applied Psychology*, 71(1), 33-38.

Westbrook, K.W., Steven Arendall, C. and Padelford, W.M. (2011), "Gender, competitiveness, and unethical negotiation strategies", *Gender in Management*, 26(4), 289-310.

THE INCREASING ROLE OF HRIS IN FACILITATING HR FUNCTIONS IN PAKISTAN'S BANKING SECTOR

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1. Abstract

Purpose: To conduct a descriptive and somewhat exploratory research of the Pakistani banking sector in Karachi to discover whether banks operating in Pakistan have been using Human Resource Information System (HRIS) to its fullest promise. The natural corollary to this inquiry was whether banks have started to exploit and deployed HRIS beyond routine transactional aspects for their strategic planning and management functions.

Methodology: Research was done in two distinct phases over a period of 9 months. In the first phase, a structured questionnaire was adapted, pre-tested, modified, and used to gather initial data from all levels of employees, who frequently use HRIS about its effectiveness in facilitating some basic HR functions. Later in the second phase, another instrument, which was also adapted and pre-tested was conducted to gather data on HRIS use for strategic purposes, which was followed up by in-person and telephonic interviews of Human Resource Managers and other high ups.

Findings: Banks operating in Pakistan were at the forefront in the country to have adopted HRIS to facilitate their primary HR functions. However, to this day, they failed to exploit HRIS's full potential, though it is being increasingly used for primary HR functions with some success. Further continuous training of employees is needed in the banking sector, if Pakistani banks to make optimal use of HRIS in facilitating the primary functions of HR. However, HRIS deployment for strategic aspects of the organizations is far from being materialized. Finally, HR personnel in Pakistani banks have yet to find a place in the proverbial top suite's executive committee before any attempts could be made to deploy HRIS to facilitate strategic purposes.

Research limitations/implications: Further research should address each specific tentative finding in a more rigorous manner by collecting thorough data of a better representative sample and by exposing it to more systematic qualitative and quantitative analysis. The subordinated role and stature of HR executives in Pakistan's banks appear to be another finding as anticipated by existing literature and it requires more research before any authoritative judgments could be made about the non-utilization of HRIS for strategic purposes.

Practical implications: The research highlights tentatively some broad issues associated with full use of HRIS to its maximum potential in Pakistan's banking sector, which is a good starting point to sensitize the relevant academicians, consultants, practitioners, trainers, HRIS related software and hardware vendors,

bank executives, and strategic thinkers about the contours of the scope and scale of problems associated with HRIS adoption, implementation, usage, and up-gradation.

Originality/value: Not much research has been done in this specific area in Pakistan's context. This study is relevant and timely as Pakistan banking sector has been strenuously modernizing itself for years and the stock market shows stable and great returns in this sector allowing it to spend huge sums in infrastructure improvements, training and development, and technology adoption and purchase.

2. Introduction

Pakistan is a developing nation with a huge potential for growth. The major chunk of its economy remains in the informal sector (Akbar Zaidi, 2015). The formal sector of the economy is dominated by public sector corporations, which is a relic of Pakistan's brief brush with economic socialism in the 70s when major sections of the economy were nationalized including the banking sector under an ambitious plan (Abidi et al., 2014). Nevertheless, there are many sectors of the economy, where Pakistan has made tremendous strides despite limitations inherent in the country's current stage of development.

Pakistan's conservative, cautious, and highly regulated banking is one such sector, which has seen steady growth for decades despite all political and social upheavals the country faced since its independence (Ashraf et al., 2016). According to Pakistan Banks Association, there are 44 banks in Pakistan categorized into six groups. See Table 1. Eventually, the state privatized four out of the five major banks. Recently, the sector has gone through restructuring as a consequence of the adoption of the latest technological tools in the field. The widespread presence of Automated Teller Machines (ATMs) with or without bank branches is one such manifestation of technology adoption by the banking sector as banks in Pakistan have deployed a reliable network of ATMs, where their account holders can do intra and inter-banking transactions. Another noted technological adoption was Human Resource Information System (HRIS), which was a natural outcome of initial Information Technology's evolution into a full-fledged enterprise-wide computer information system.

This paper has not undergone a formal review yet. It is intended to make initial results of research, and projects available to others interested in human resource management and human resource information system in preliminary form to encourage discussion and suggestions.

Table 1 List of Banks Operating in Pakistan

Members of Pakistan Banks' Association.	Private Banks:
Government-Owned Banks: <ol style="list-style-type: none"> 1. First Women Bank Limited 2. Khushhali Bank Limited 3. National Bank of Pakistan 4. SME Bank Limited 5. Sindh Bank Limited 6. The Bank of Khyber 7. The Bank of Punjab 	<ol style="list-style-type: none"> 1. Al Baraka Bank (Pakistan) Limited 2. Askari Bank Limited 3. Bank Alfalah Limited 4. Bank AL Habib Limited 5. BankIslami Pakistan Limited 6. Burj Bank Limited 7. Dubai Islamic Bank Pakistan Limited 8. Faysal Bank Limited

8. The Punjab Provincial Cooperative Bank Limited 9. Zarai Taraqati Bank Limited Privatized Banks: 1. Allied Bank Limited 2. Habib Bank Limited 3. MCB Bank Limited 4. United Bank Limited Development Financial Institutions: 1. National Investment Trust Limited 2. Pak Brunei Investment Company Limited 3. PAIR Investment Company Limited 4. Pakistan Kuwait Investment Company (Pvt.) Limited 5. Pak Libya Holding Company (Pvt.) Limited 6. Pak Oman Investment Investment Company Limited 7. The First MicroFinanceBank Limited Company Limited 8. Saudi Pak Industrial & Agricultural Bank	9. Habib Metropolitan Bank Limited 10. JS Bank Limited 11. KASB Bank Limited 12. Meezan Bank Limited 13. NIB Bank Limited 14. Samba Bank Limited 15. Silkbank Limited 16. Soneri Bank Limited 17. Standard Chartered Bank (Pakistan) Limited 18. Summit Bank Limited (Formerly Arif Habib Bank Limited) Foreign Banks: 1. Barclays Bank PLC, Pakistan 2. Citibank N.A., Pakistan 3. Deutsche Bank AG, Pakistan 4. HSBC Bank Middle East Limited, Pakistan 5. HSBC Bank Oman S.A.O.G. (Formerly Oman International Bank S.A.O.G.)
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3. Literature Review

More and more organizations are finally realizing the importance of a well-run Human Resource department for their strategic concerns as a plethora of failed mergers in the corporate world have proven this point. Given this wisdom, a well-run HR department that efficiently and effectively discharges its administrative functions but failed to appreciate its strategic importance contributes little to a firm's pursuit of competitive advantage.

According Broderick & Boudreau (1992) human resource information system (HRIS) is "the composite of databases, computer applications, and hardware and software necessary to collect, record, store, manage, deliver, present, and manipulate data for human resources". HR technology is any technology that is used to attract, select, and hire human resources and to support their administration (Bulmash et al., 2010). Kovach et al. (2002) studied the various strategic advantages of HRIS. They consider it as a systematic IT-based procedure for collecting, storing, maintaining, and recovering data required by an organization about their human resources, personnel activities, and organizational characteristics. (Hendrickson, 2003) considers HRIS as the backbone technology of human resources as HRIS is not limited to the computer hardware and software applications that comprise the technical part of the system, it also includes the people, policies, procedures, and data required to manage the HR function.

HRIS has grown in popularity since the 1960s (Lederer, 1984). Many view (Buzkan, 2016;

Hegarty & Jude, 2018; Irum & Yadav, 2019) it as the most helpful tool in sustaining the competitive advantage of the firm. Barisic et al. (2018) studied the various researches on HRIS and Data gathered via surveys of HR consultants suggest that the number of organizations using HRIS has been continuously increasing as well as HRIS scope and scale within the organizations is broadening. Sheehan et al. (2016) states that HRIS facilitates the HR department's activities to gather and keep information about employees. Snell et al. (2001) conducted a study on virtual organizations suggests that HR can meet seemingly conflicting objectives of becoming more strategic, flexible, cost-effective, and more customer responsive by using information technology.

There might be many more researches and studies done by students and members of academic faculty in Pakistan's universities, however, three significant studies were discovered by the writer relevant to the current inquiry in the Pakistani context. Sadiq et al. (2012) conducted a survey of HR managers of 18 private banks operating in Lahore, Pakistan. Based on this survey, they discovered that HRIS appeared to be contributing to the greater administrative efficiency of HR departments in those banks, however, HRIS utilization as a strategic tool is not fully appreciated and implemented.

Another empirical study of 54 organizations was done by Saleem et al. (2012). The study's instrument was directed towards HR Managers and HRIS experts. Saleem wanted to evaluate the contribution of HRIS adoption impact on three tiers of HRM. He discovered that HRIS adoption significantly impacts HRM operational processes, it has a moderate impact on functional processes and it provides insignificant support for strategic processes. Both studies' findings were consistent in acknowledging HRIS contribution to administrative HR functions. Likewise, both studies suggested HRIS potential as a strategic tool is not fully utilized in Pakistan.

Another was a case study done by Zafar (2009) on the adoption of e-HRM by the central bank of Pakistan. The study's main focus was on e-HRM but its relevance could hardly be understated. The writers noticed that the IT landscape in Pakistan is dynamic, nevertheless, organizations still face a lot of hurdles when it comes to adoption and implementation of technology. They concluded that the State Bank of Pakistan is though deploying IT to recalibrate and redesign its HR processes, functions, and services yet so much more could be done despite those initial successes in the implementation of e-HRM.

Khan et al. (2017) studied the challenges faced in the implementation of HRIS in Pakistan. The findings revealed that in Pakistan most of the organizations were using HRIS for the purpose of monitoring employee attendance and gathering information online to reduce the paperwork. However, there was a lack of commitment from the lower management as they viewed it as a monitoring tool only which didn't provide them any benefit.

4. Research Methodology

Data was gathered in two distinct phases and the data collected in the first phase and its analysis served as the basis for data gathering activity in the second phase. The first phase consisted of an instrument/questionnaire and in the second phase, another instrument was adapted and used in conjunction with semi-structured telephonic and personal interviews.

Initially, a questionnaire was adapted, pre-tested, and conducted among users of HRIS in nineteen

different Pakistani banks. Technically, the theoretical population of this research was the entire category of users of human resource information systems in Pakistan's banking sector. However, the primary target population was the users of HRIS in human resource departments and the secondary target was the users of HRIS from other departments. HRIS meets the needs of several organizational stakeholders. Typically, the people in the firm who interact with the HRIS is segmented into three groups: (1) HR professionals, (2) managers in functional areas (production, marketing, engineering, etc.) and (3) employees.

Altogether, approximately 133 questionnaires were distributed to the respondents and 128 were given back to the researchers, which is a response rate of 96.24%. 34 forms were filled out online, while the remaining 99 questionnaires were conducted physically in various banks' offices and branches. A total of 12 forms became ineligible due to missing, incomplete, and duplicate answers for one question. Hence, 121 forms were deemed to be eligible for analysis.

As this study is qualitative and descriptive with some exploratory aspects, so purposive sampling was used. Purposive sampling is judgmental and it may be used where a researcher thinks it can meet its objectives by deploying it.

The questionnaire was developed based on previous researchers (Bal et al., 2012). Insight generated by this data was used as a guideline for another questionnaire, which as also adapted from Beadles et al. (2015). It was pilot tested by two HR professionals, and then the instrument was conducted on human resource managers, executives, directors, and high ups of 11 banks out of those 19 banks. HR managers of 8 banks were not available for the second phase of the data gathering. Finally, structured in-person or telephonic follow up interviews of five participants of the second questionnaire were conducted to yield further insight. Six respondents of the second questionnaire were not amenable to the idea of follow up interviews. In order to evaluate the extent of the HRIS contribution to HR functions, there were six major HR functions considered in the initial phase of data collection: human resource planning, recruitment, performance appraisal, training, compensation, and employee relations. In addition to these primary HR functions, data was also collected regarding the extent of HRIS training and retraining afforded to the users of HRIS, and the final section was about users' satisfaction with HRIS.

As the small sample size was relatively small, therefore, frequency tables are shown to calculate the percentage of favorable responses to a series of questions assessing HRIS users' perceptions of HRIS. The expressed results are the percentage of respondents for each item who either agreed or strongly agreed with the statement.

5. Results

5.1 Human Resource Planning

Table 2: HRIS use for HRP

Items	% Agreed
Our bank uses HRIS to forecast the demand and supply of human resources	100

Our bank uses HRIS to identify vacancies	70
Our bank stores information in HRIS about job duties to facilitate HRP	80
Our bank uses HRIS for turnover and absenteeism analysis through HRIS.	30

Mixed responses were received when asked about the use of HRIS as a planning tool for HRM. All the banks were using it for supply and demand planning, a majority used it for identifying vacancies and storing job duties. However, the responses showed that turnover and absenteeism weren't not monitored or planned through HRIS.

5.2 Recruitment

Table 3: HRIS use for Recruitment

Items	% Agreed
Our bank uses HRIS to facilitate recruitment	40
Our bank tracks candidates by using HRIS	10
Our bank's HRIS has predetermined tools for effective selection of the candidates	30
Our bank manages all its recruitment information via HRIS	00

In recruitment, the respondents replied that HRIS does play an important role as it saves cost and time. They further added that it also plays a vital role in tracking qualified candidates, when the banks need them. The HRIS has different tools for selecting the best candidate from a pool of candidates and finally, HRIS helps the banks to record and store all the information relates to the recruitment process.

5.3 Performance Appraisal

Table 3: HRIS use for Performance Appraisal

Items	% Agreed
Our bank has appraisal forms integrated with the HRIS	00
Our bank's HRIS makes it easy for supervisors to do performance	00
Our bank's HRIS based appraisal system is effective	00
Our bank's use of HRIS based performance evaluation impacted positively	00

In Performance appraisal, it was found that the HRIS role in employee performance, performance effectiveness, and performance evaluation is neutral. Pakistani banks do not use the online appraisal system to evaluate the employee's performance and there were no appraisal forms integrated with the HRIS.

5.4 Training

Table 4: HRIS use for Training

Items	% Agreed
Our bank's HRIS to assess training needs of employees	37.5
Our bank uses HRIS to schedule, manage and budget training	75.0
Our bank stores employees skills and competencies inventories through HRIS	87.5

In Training, it was found that the users have good skills in operating the HRIS due training they got frequently. The HRIS plays a vital role in storing the competence of the employees and the skills they acquired from the training. When the employee's training is finished, an assessment of the employee's skills is done through the HRIS. Pakistani's banking sector doesn't offer online training to its employees which are integrated with the system.

5.5 Compensation

Table 5: HRIS use for Compensation

Items	% Agreed
Our bank payroll services are integrated with HRIS	37.5
Our bank's employees have self-service access to HRIS payroll system	75.0
Our bank specifics pay structure in the HRIS payroll system	87.5
Our bank links employee benefits and payments to HRIS	50.0

In Compensation, it was found that the HRIS has different features of payroll systems that facilitate easy calculations of salaries and wages of the employees. The systems also offer employee self-service access to the payroll system in order to check their payroll accounts. Different pay structure, grade, and bands are integrated with the HRIS which help managers and top-level management for salary planning. The systems also list all benefits categories and those who are eligible for each specific benefit and this makes it easy for the manager's work in tracking and administering the payment of the employee's benefits.

5.6 Employee Relations

Table 6: HRIS use for Employee Relations

Items	% Agreed
Our bank regulates employee's health & safety through HRIS	37.5
Our bank uses HRIS for compliance with labor and employment laws	75.0
Our bank's HRIS contains HR policies and procedures	87.5

In Employee relations, it was found that the HRIS doesn't play a good role in providing guidelines for the employees in terms of health, safety, and security. However, it plays a moderate role in compliance

with labor and employment laws. The HRIS plays a very critical role in providing all HR policies and procedures that all the employees should follow and this feature has replaced the traditional employee handbooks, which used to be provided by the employers.

5.7 HRIS Users Training

Table 7: HRIS users Training

Items	% Agreed
Our bank adequately trains users of HRIS	37.5
Our bank has provisions for subsequent training of HRIS users	50.0
I have all skills and expertise to use all features of HRIS	50.0
Our bank's employees appear to be used comfortably all features of HRIS	100.0

When asked about HRIS training, the responses indicate that banks have invested in providing their employees with training of HRIS as 100% of the respondents stated that the employees were comfortable with all the features of HRIS.

5.8 Employee Satisfaction with HRIS

Table 8 displays the satisfaction of management with the HRIS system. The results show that only about half were satisfied with the HRIS, and a similar number of respondents concurred that the system was up to their expectations. The percentage of people being satisfied was just above one-third, and all employees agreed that their HRIS could be put to better use. These studies indicated that satisfaction with regards to HRIS was mixed. And almost all of the respondents felt that it could be better utilized. These results do not take into consideration whether the staff had been trained properly in the use of HRIS, nor were they properly briefed about the system's utility.

Table 8: Satisfaction with HRIS

Items	% Agreed
Overall I am satisfied with our HRIS.	37.5
The employees of the HR department appear to be satisfied with our HRIS.	50.0
Our HRIS has met our expectations.	50.0
Our HRIS could be better utilized.	100.0

In the second phase of the research, the idea was to discover the extent of strategic use, if any, of the HRIS in the banking sector of Pakistan. This phase replicated in part another similar empirical study done by Sadiq et al (2012) in Lahore, Pakistan.

5.9 Strategic Impact & Role of HRIS

Table 9: Strategic Impact and Role of HRIS

Items	% Agreed
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Our HRIS has made the HR department more important to the institution.	87.5
Overall our administration thinks that HRIS is effective in meeting strategic goals.	37.5
The information generated from our HRIS has improved the strategic decision making of top administrators	62.5
The information generated from our HRIS has made HR a more strategic partner in the institution	87.5
Our HRIS has promoted our institution's competitive advantage.	37.5

Huselid's (1995) groundbreaking research proved that a set of HR practices, termed as High-Performance Work Systems, were positively related to turnover, accounting profits, and a firm's market value. Later, Huselid & Becker (2000) distinguish between technical and strategic effectiveness of HRM and he noted that though the definition of strategic HRM might not have coalesced then, there is a broad consensus that strategic HRM involves the alignment of HR policies and practices with business strategy. They further discovered that strategic effectiveness appeared to be significantly associated with firm performance, whereas technical or traditional HRM effectiveness was not. A Pakistani researcher Irfan Saleem (2012) concluded otherwise after a study of HRIS in the service sector. His findings show that HRIS adoption significantly impacts HRM operational processes and moderately facilitates its functional processes and provides insignificant support for strategic HRM. He concluded that there may be more benefits in adopting HRIS for operational and function level HR processes rather than strategic level HR processes as companies may seek to gain efficiencies through a reduction in staffing levels for routine administrative tasks, a conclusion in the direct juxtaposition of that of Huselid et al (1997).

It was in follow up in person or telephonic interviews that the writer discovered that HR professionals in those banks do not carry the clout and stature, which would allow their department to have become an effective strategic partner. Seldom, if ever, the organization sought any input from them for strategic decisions.

6. Limitations

The scope of the study was limited as it was only conducted in a specific location, which is Karachi, which may not represent the dynamic of the entire banking sector in Pakistan. Many banks have their headquarters in Lahore, Pakistan. The sample, consequent of purposive sampling, was questionably representative as 19 out of 44 banks participated in the initial phase of data collection and only 11 of them took part in the second phase of data collection. Finally, only 5 HR high ups interacted in the follow-up interviews. Therefore, it would be hard to generalize the findings of this study to the entire banking sector of Pakistan, let alone to all organizations using HRIS in Pakistan. Data collection from a more representative sample and a more robust quantitative study embedded in a valid theoretical model may yield more precise and valid insight.

7. References

- Abidi, A. R., Chandio, F. R., & Soomro, H. J. (2014). Banking Sector in Pakistan: An Overview. *International Journal of Management Sciences*, 3(10), 797–805.
- Akbar Zaidi, S. (2015). Issues in Pakistan's Economy: A Political Economy Perspective. In *OUP Catalogue*. Oxford University Press. <https://ideas.repec.org/b/oxp/obooks/9780199401833.html>
- Ashraf, B. N., Arshad, S., & Hu, Y. (2016). Capital Regulation and Bank Risk-Taking Behavior: Evidence from Pakistan. *International Journal of Financial Studies*, 4(3), 16. <https://doi.org/10.3390/ijfs4030016>
- Bal, Y., Bozkurt, S., & Ertemsir, E. (2012). The Importance of Using Human Resources Information Systems (HRIS) and a Research on Determining the Success of HRIS. In *Knowledge and Learning: Global Empowerment; Proceedings of the Management, Knowledge and Learning International Conference 2012* (pp. 53–62). International School for Social and Business Studies, Celje, Slovenia. <https://ideas.repec.org/h/isv/mklp12/53-62.html>
- Barisic, A. F., Pejić Bach, M., & Miloloža, I. (2018). *Human Resources Information Systems: Transactional and Strategic Paradigm* (SSRN Scholarly Paper ID 3283100). Social Science Research Network. <https://doi.org/10.2139/ssrn.3283100>
- Beadles, N., Lowery, C., & Johns, K. (2015). The Impact of Human Resource Information Systems: An Exploratory Study in the Public Sector. *Communications of the IIMA*, 5(4). <https://scholarworks.lib.csusb.edu/ciima/vol5/iss4/6>
- Bulmash, J., Speers, E., & Chhinzer, N. (2010). *Strategic planning for human resources* (1st ed). [Toronto] : McGraw-Hill Ryerson. <https://trove.nla.gov.au/version/181825721>
- Buzkan, H. (2016). The Role of Human Resource Information System (HRIS) in Organizations: A Review of Literature. *Academic Journal of Interdisciplinary Studies*, 5(1), 133.
- Hegarty, N., & Jude, M. (2018). How HR can Contribute to Organizational Viability and Competitive Advantage: A Three-Pronged Approach. *Performance Improvement*, 57(7), 30–35. <https://doi.org/10.1002/pfi.21791>
- Hendrickson, A. R. (2003). Human resource information systems: Backbone technology of contemporary human resources. *Journal of Labor Research*, 24(3), 381–394. <https://doi.org/10.1007/s12122-003-1002-5>
- Huselid, M. A. (1995). *The Impact of Human Resource Management Practices on Turnover, Productivity, and Corporate Financial Performance* (SSRN Scholarly Paper ID 1803666). Social Science Research Network. <https://papers.ssrn.com/abstract=1803666>
- Huselid, M. A., & Becker, B. E. (2000). Comment on “Measurement error in research on human resources and firm performance: how much error is there and how does it influence effectsizes estimates?”. *Personnel Psychology*, 53(4), 835–854. <https://doi.org/10.1111/j.1744-6570.2000.tb02419.x>
- Irum, A., & Yadav, R. S. (2019). Human resource information systems: A strategic contribution to HRM. *Strategic Direction*, 35(10), 4–6. <https://doi.org/10.1108/SD-02-2019-0043>
- Khan, H., Hussainy, S. K., Khan, K., & Khan, A. (2017). The applications, advantages and challenges in the implementation of HRIS in Pakistani perspective. *VINE Journal of Information and Knowledge Management Systems*, 47(1), 137–150. <https://doi.org/10.1108/VJIKMS-01-2016-0005>
- Kovach, K. A., Hughes, A. A., Fagan, P., & Maggitti, P. G. (2002). Administrative and Strategic Advantages of HRIS. *Employment Relations Today*, 29(2), 43–48. <https://doi.org/10.1002/ert.10039>
- Sadiq, U. A., Khan, A., Ikhlq, K., & Mujtaba, B. G. (2012). The Impact of Information Systems on the Performance of Human Resources Department. *Journal of Business Studies Quarterly*, 3(4). [/paper/The-Impact-of-Information-Systems-on-the-of-Human-Sadiq-Khan/608194ea035aadab5aaf69555612a114d506ff39](http://paper/The-Impact-of-Information-Systems-on-the-of-Human-Sadiq-Khan/608194ea035aadab5aaf69555612a114d506ff39)

- Saleem, I., Hussain, S., & Saleem, A. (2012). *Factors Affecting Job Satisfaction of Pakistani Bankers* (SSRN Scholarly Paper ID 2603875). Social Science Research Network. <https://papers.ssrn.com/abstract=2603875>
- Sheehan, C., De Cieri, H., Cooper, B., & Shea, T. (2016). Strategic implications of HR role management in a dynamic environment. *Personnel Review*, 45(2), 353–373. <https://doi.org/10.1108/PR-04-2014-0071>
- Snell, S., Stueber, D., & Lepak, D. (2001). Virtual HR Departments: Getting Out of the Middle. *CAHRS Working Paper Series*. <https://digitalcommons.ilr.cornell.edu/cahrswp/71>
- Zafar, J. (2009). E-Human Resource Management: A Case Study of the State Bank in Pakistan. *European Journal of Social Sciences*, 15(1), 18–26.

HOW DIGITALIZATION IS REVOLUTIONIZING RELATIONSHIPS BETWEEN CUSTOMERS AND SERVICE PROVIDERS IN THE HOSPITALITY INDUSTRY: PERSONALIZATION AND GAMIFICATION

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Abstract

The hospitality industry is changing. What has been an industry dominated by personal connections, messaging strategy, and selling destinations and travel packages is shifting toward an industry where companies have unique relationships with every consumer. Those relationships are, for the first time, primarily digital, and they depend on two key features: they must be deeply personalized to each prospective guest or client, and they must be intrinsically rewarding—that is, fun on their own terms, not just because they end in a booked room or a pleasant dinner. Personalization and gamification are thus two of the most important trends in tourism today, and together they represent the current version of digitalization. In this article, key examples are reviewed with respect to current trends in multiple sectors of hospitality, and limited predictions are offered about the industry’s likely future directions.

Keywords

Hospitality, digitalization, personalization, gamification, internet of things, sharing economy

1. Introduction

Tourism is changing. What has been an industry dominated by personal connections, messaging strategy, and selling destinations and travel packages is shifting toward an industry where companies have unique relationships with every consumer. At the same time, the influence of the largest tourism and travel enterprises is waning, not as a result of new competition but because consumers are influencing one another’s travel decisions more directly and more often through digitalized social interaction. Trends and traveler decisions are now emergent from digital networks of consumer-to-consumer and consumer-to-enterprise relationships, and those networks generate their own unique forms of value. When tapped into using AI-run databases and other cutting-edge digitalized tools, they transform the opportunity landscape for hospitality companies (Popescu et al., 2015; Zsarnocky, 2018).

That fundamental change in relationships between consumers and service providers makes digitalization the most important shift in the hospitality industry right now (Bhutani & Paliwal, 2015; Ristova & Dimitrov, 2019; Sezgin, 2016). Digitalization can be defined as “the integration of digital technology in routine work” (Shamim et al., 2017, p. 10), and the World Economic Forum estimates that it is like to account for a \$305 billion increase in productivity, the relocation of \$100 billion from established players to new competitors, and up to \$700 billion in improvements to sustainability, safety and security, and other savings between 2016 and 2025 (Spelman et al., 2017). And because those estimates were made more than two years ago, they are likely to be conservative. The pace of digitalization is increasing, as are its effects (Kansakar et al., 2019).

Digitalization can usefully be divided into two major branches. The first is the personalization of experiences, which itself has two major components: changes in marketing and digital communication, on the one hand, and changes in plant management and guest-host interactions, on the other. Together, those changes can boost operational efficiencies, enhance management effectiveness, decrease expenses, increase profits, and improve sustainability (Kasavana, 2014). The second major change is gamification, or the introduction of ludic elements into digital interfaces and processes. Gamification is a way to get consumers to add their own value—it makes tasks such as booking a stay intrinsically rewarding rather than relying on the promise of the vacation itself as a motivator (Sigala, 2015; Singh, 2012; Xu et al., 2017).

Both sets of changes—personalization and gamification—are specifically appealing to the group of younger, technology-dependent travelers who are an increasingly crucial source of revenue across the hospitality sector. These individuals tend to be on relatively tight budgets and to expect digital interfaces to ensure convenient, engaging experiences (Wang et al., 2017; Yaldaie, 2019). They also make their most crucial decisions, such as where to go and what companies or services to book along the way, in a fundamentally new way. Pre-digitalization, the primary influences on these decisions were close personal connections and the messaging and advertising produced by large tourism and travel companies. Post-digitalization, the number of factors involved has expanded, and the weight given to each has increased. For instance, a relatively simple list of options recommended by a local travel agent has now been replaced by a more or less infinite list of options presented in vast online databases accessible through travel services websites like Expedia, Kayak, and many others, together with dozens or potentially hundreds of photos, reviews, and recommendations from social media contacts. That expansion in the number of options reduces the decision-affecting power of any single option or recommendation (Paulauskaite et al., 2017; Rosman & Stuhura, 2019; Zsarnocky, 2017).

It also has a second effect, which is to create what Ismail et al. (2014) call “exponential organizations.” This article presents a detailed case study of one such organization below, following arguments initially developed by Oskam and Boswijk (2016) about novel “networked business models.” That case study is Airbnb, perhaps the best-known example of how effectively digitalized networks can be leveraged to create new forms of value generation. First, though, it is crucial to describe digitalization itself by focusing on its two most important components: personalization and gamification.

2. Personalization

The first major change wrought by digitalization is the opportunity to "impersonally personalize." That is, individual customer preferences can now be met using automated systems, rather than through the attention of a trained human staff member. For instance, the capability currently exists to automatically collect upcoming guests' beverage preferences and stock the appropriate products prior to their stay, ensuring that their favorite drinks will be available during happy hour. This is bigger than just targeted marketing and customer rewards accounts; digitalization offers the chance to fundamentally modify what services hospitality companies offer. Most crucially, successful digitalization can remove the need for consumers to keep track of details both pre-travel and during their stay. The process begins with a very fine level of personal targeting and adjustment of digital communications and then, as they arrive, transitions into digitally enhancing the tourist experience itself through scheduling, custom information and planning, unique incentives, changes to their physical environments, and more (Collins, 2010; Kansakar et al., 2019).

The trend toward personalization in hospitality began with the emergence of the sharing economy, where individualism became the dominant economic philosophy—especially among younger people—as platforms and strategies were designed that allowed them to more easily own and operate small, innovative businesses and rapidly shift their behavior as both consumers and service providers (Ikkala & Lampinen, 2017; Sezgin, 2016; Zsarnocky, 2018).

From those beginnings, personalization has spread across the hospitality industry. Its efficacy is difficult to deny. For example, one recent study surveyed 400 travelers about their use of mobile apps developed by hotel chains, and found that most of them viewed functional hotel booking from their phones as both enjoyable and useful—enough so that they planned to continue planning their stays that way (Ozturk et al., 2016).

Note that personalization will not change the fundamental activities involved in hospitality. Travelers will still be seeking places to stay, places to eat, and things to do while they are there. What will change, instead, are the details of how their decisions are made and how their stays are coordinated and organized.

2.1 Personalized digital communication

At time of writing, most stakeholders in the tourism market make use of artificial intelligence and big data to track and predict consumer behavior. New cloud-based systems such as customer relations management (CRM) databases have been rapidly developed and deployed to take advantage of the huge quantities of behavioral data generated by online behavior, such as purchase decisions, browsing habits, and advertisement viewership. Although big data analysis techniques were originally designed to work with aggregate measures, they now present the most effective means of determining personal preferences and predilections (Zsarnocky, 2018).

Capriello and Riboldazzi (2019) back up this assertion with an investigation of how travel agencies can best survive the process of digitalization. They conclude that the key lies in adopting an "omni-channel" strategy, one that links automated large-scale data collection to customized marketing activities, location-based digital services, and social media integration. The key is not to try to transition existing services or strategies into a new digital environment, but to redesign customer management

approaches from the ground up using new digital channels. Digital service platforms such as dedicated booking apps, live check-in apps or tools, or digital “room keys” get guests involved in new ways. A well-built online tool can allow them to plan their stay on their own time and at their own convenience, including during the day itself (Kansakar et al., 2019). More importantly, it can do much of the work for them, ensuring that they are reminded of their preferred programs, are offered reservations in their preferred locations or room-types, and generally need to invest little effort into planning the perfect trip.

Automated data collection has another advantage, too, which is that it is not limited by what customers are willing to share with travel agents, on-site staff, or customer service personnel. Data from browsing habits and ad clicks can be accumulated and used to design targeted offers without the customer ever having to publicly share their secret love of, for instance, 14th century churches. A well-built AI program can simply take note of what websites they spend time on and design a custom email ad for a tour of Western Ireland that features all of the medieval highlights. Or, perhaps more subtly, the program might note that a given customer is interested in sustainability. The customer might not even realize that there are unique opportunities for sustainable tourism, and so would never think to ask, or to search them out on their own. AI solves that problem by delivering sustainably managed destinations right to their inbox, in-browser ad space, or other digital points of contact.

According to an overview from Mosca et al. (2017), a company's goal should be to achieve “integrated bottom-up communication” as part of their branding efforts undertaken to attract attention and compete online. And this is a key area of competition: “travel industry marketers say they are at vastly different stages in their implementation and use of such techniques” (Adara, 2019). In an interview given last year, Kurt Weinsheimer, chief solutions officer at the technology company Sojern, said that personalization is critical to success in a digital world. Successful personalization, he claimed, recalibrates consumers’ sense of what is possible and resets the bar at that new level. Ads that are not specifically relevant to individuals’ interests or location, for instance, are now regarded as a mark of incompetence (Sojern & Skiftx, 2019). Weinsheimer went on:

Major brands who invest in the right tools and partners can now combine demographic data with psychographic data, along with their CRM and loyalty data, as well as look at real-time trip intent indicators like search and booking data—all to power tailored marketing programs that systematically deliver timely offers and great customer experiences. (Sojern & SKiftx, 2019)

One major survey from last year found that surprisingly few companies have capitalized on these possibilities. Instead, most targeted marketing is still rules-based and manual, involving curating and then uploading specific lists of potential customers for each campaign. Not nearly as many use advanced options made possible by digitalization, where those refer to complex data-driven strategies involving artificial intelligence, predictive analytics, or delivering more complex cross-channel customer experiences. While 80% of marketers use customer data to some extent, only 60% apply business-relevant rules to it, and far fewer use AI (Adara, 2019).

What does high-quality personalized communication look like? The Adara team argues that it has three components. First, it happens seamlessly, with no extra input from customers. This means that data

sources have to be “off-screen,” collected from existing databases. Second, personalization needs to be pervasive, not limited to a single device, platform, or process. And third, it needs to be adaptive, improving as companies learn more about their customers.

For instance, consider the example of traveler who has just booked a surfing trip to California. Using the advanced marketing techniques described above, that consumer would expect that subsequent communications would personalize potential offers relevant for their stay, such as pointing out surf shops or surfing lessons. They would also expect a customized version of the trip provider’s website and mobile app based on the upcoming trip. Better still, they might look for a simplified during-stay experience thanks to contextually relevant information like a map from their airport to their hotel provided on the day of travel.

Fewer than one third of all brands are currently using those techniques (Adara, 2019). Those brands are currently ahead of the curve, and their competitors will need to catch up or miss the chance to create compelling long-term customer relationships using information that is already available for collection and analysis.

One example is Duetto, a provider of hotel management software. The company has designed revolutionary technology-driven tools to create a smoother guest experience (Duetto, 2017). When potential guests are browsing a hotel’s website looking for rooms, the new software allows the service provider to offer customized recommendations, modifying room categories, package types, and even rates to match each customer’s expectations and desires.

This is an example of what Rosman and Stuhura (2013) call “social customer relations management” (SCRM), although of a different type than the authors focus on (their primary concern is with social media). The central idea is that, because they can collect reliable and detailed information about consumers directly but without having to ask for it explicitly, companies can now rely on customer-generated value to drive marketing campaigns (cf. Litvin et al., 2008). One form of this effect, described in detail by Lim (2010), does indeed depend on social media:

The most valuable social validation occurs through viral marketing when individuals that one trusts, recommend a product. For example, when Twitter tweets or Facebook posts are looped by individuals that have social influence, it is amazing to observe the snowball effect in action in spreading this recommendation...The next time a marketing blast regarding the same product occurs, the social media fans will be excited to receive it. (Lim, 2010, p. 28)

But the most innovative versions of SCRM are driven by artificial intelligence, as described above (Shamim et al., 2017). They capitalize on consumers’ preferences by delivering content and offers that realize those preferences perfectly, and in advance, with no user input. That is the first crucial form of personalization.

2.2 Personalized experiences and the Internet of Things

The second major branch of personalized services made possible by digitalization includes on-site guest-facing and backend systems with a variety of functions, from allowing flexible all-hours

self-check-in to tailoring menus or offering a specific restaurant recommendation just as someone is starting to get hungry. Shamim et al. (2017) break this branch of personalized services down further, separating it into “mass customization” and issues of “supply chain efficiency.” Mass customization includes automated adjustment of core service offerings: menus, room type, the timing of room service and cleaning, and so on. Supply chain personalization deals with back-of-house IT management and design, modifying “the sequence and arrangement of processes to services” (p. 19) in order to help hotel staff be in the right place at the right time or have the right supplies available.

Both kinds of personalization depend on versions of the increasingly ubiquitous “internet of things” (IoT), which refers to networks of computerized devices including plant monitors, body monitors, appliances and utilities, screens, and more, all of them linked together to create a coherent system for managing the internal environment and digital interfaces of a particular space. The term also refers globally to the whole set of internet-enabled home devices: thermostats, lights, locks, speakers, cameras, health monitors, automotive vehicles, clocks, microphones, washing machines, fans, and many others (Atzori et al., 2010). In the context of hospitality, IoT networks and other small IT upgrades can be used to deliver more customized and personalized services in terms of timing, the use of collaborative apps or platforms to arrange packages and deals, and similar mechanisms. Sudhagar (2019) presents a comprehensive list of the IoT devices and tools used in Indian hotels, presented with data on their average utility and how widespread their use is. A few illustrative examples are given here:

- Room occupancy sensors (widely available)
- Wifi-enabled switches and “smart” sensor lights (widely available)
- Smart mirrors (available in some places)
- Digital door viewers (available in some places)
- Robot in place of bell boy (not available) (Sudhagar, 2019)

Perhaps the most widespread form of IoT-based personalization at present is the use of mobile phones as room keys, often accompanied by automated in-app check-in services, as used by the Hilton and Starwood hotel chains, among others (Ukpabi & Karjaluoto, 2017; Wang et al., 2017). Hilton, for example, recently invested \$550 million in the development of a smartphone app allowing guests to book and access their rooms without stopping at the reception desk. The app also allows them to receive notifications informing them of commercial operations, and was commissioned as part of the brand’s efforts to modernize some 4,000 hotels (Montargot, 2016). Keyless room access, and services like it, reduce staffing and equipment costs while allowing guests greater flexibility. In this way, digitalization can help increase operational efficiency while simultaneously improving management effectiveness and increasing profits (Kasavana, 2014; Ristova, 2019).

However, there are important design considerations. Simply adding IoT devices to hotels is not enough. Systems need to be designed to prioritize clear, easy-to-understand visual displays, because the positive effects of the system depend on accessibility for clients as well as on ease of use for employees (Shamim et al., 2017). Montargot (2016) gives a strong overview of this set of issues, focused on a case study of hotel check-in. The key is that digitalized services need to *engage* the guest. It is not enough for a receptionist to perform check-in procedures while guests stand idly by; the customer has to be actively involved.

During the service encounter, the customer can be considered a co-producer, a co-creator of value. Indeed, they contribute to the quality of service and their own satisfaction, but also create value during their interactions with the physical and social elements of the service. (Montargot, 2016, pp. 70-71)

For instance, hotel lobbies can include terminals or prompts to use a smartphone app in some particular way (for instance, to make dinner selections, review upcoming activities, or grant access to personal information). Digitalization can be used to provide “explanatory elements” of how the hotel operates that highlight the benefits and privileges customers can expect. The education can be performed in two ways: before-stay, through mobile apps, chatbots on websites, and similar tools, and during-stay, using terminals, in-room e-concierges, and similar tools.

Even in more modestly resourced hotels, on-site personalization can be very cost-effective. Yaldaie (2019) conducted a case study of a moderately sized hotel, and found that simple forms of digitalization reduced costs as well as improving the guest experience. In particular, they recommend the use of smartphone-based key boxes for hotel doors—providing an alternative to picking up the keys at a front desk—and the use of a centralized digital management system. They report that roughly one third of hotels allocated resources to developing or implementing location-based digitalization services in 2016, including a wide range of offerings: digitally guided tours, recommendations for local events and sightseeing destinations, dining options, and available leisure activities. Crucially, these recommendations take into account more than just location: they can also be tailored to individual guests’ preferences and, perhaps more importantly, they can guide guests to establishments that are attached to or partners of the host hotel, driving important revenue increases.

On the other end of the spectrum are cutting-edge forms of in-site digital personalization. Sudhagar (2019) points to robots as one way forward, as they might perform cleaning tasks or provide in-room concierge services, for instance. But another vision is presented by Collins (2010), who discusses the potential value of “customer-responsive environments” that use sensors and location-based smartphone interfaces to interact with hospitality options. Smartphones are the current user interface of choice due to their portability, ubiquitous ownership, and the ease of developing apps for them. Examples of such “ambient intelligence” include location-sensitive recommendations (an app that recommends nearby hotels of a particular chain, for instance) or apps that allow users to request hotel services and functions from their phones, much as a phone can be used to control IoT accessories in a private residence. Rather

than turning on an Alexa unit, however, the guest is ordering room service or putting a virtual Do Not Disturb sign on their door. And the future is bright:

For example, a customer could request step-by-step directions to the casino through a navigationally-enabled phone. Directions could be given with arrows pointing in the right direction as a customer approaches one of the public displays...Providing turn by turn directions and other information via eyeware equipped with an ultra-miniature display connected to a mobile device via a wireless or wired link is another possibility. (Collins, 2010, p. 49)

Another set of options is afforded by medical monitors, fitness trackers, smartwatches, and other “wearable” digital devices (Yaldaie, 2019). These might allow foods high in sugars to be removed from meals delivered to guests living with diabetes, for instance, or might trigger a system to calculate local routes of the appropriate length for guests who enjoy running. Room lighting could be adjusted based on guests’ sleep cycles, a thermostat could be adjusted based on their body temperature, and so on.

An exhaustive recent list of IoT devices relevant to the hospitality sector is provided by Kansakar et al. (2019). They conclude that this form of digitalization will be a defining feature of all future offerings in the industry, and that they are readily becoming major drivers of revenue increases.

3. Gamification

All the personalization in the world, though, will not change a customer’s mind. Personalization offers convenience and efficiency. It does not fundamentally change the services being provided or guests’ levels of interest in them. For that, hospitality service providers can look to the other leading trend in digitalization: adding intrinsically motivating design elements to online and mobile platforms, interfaces, and activities. The usual name for this process is “gamification.”

The core idea at work here is to borrow interactive design elements created for use in digital games and apply them to a utilitarian purpose. The first examples were loyalty rewards programs, such as frequent flyer miles, that borrow the idea of low-value quantifiable digital rewards for performing routine activities (Xu et al., 2013). Just as common by now are systems of badges, ranks, and icons used to reward and encourage participation in online forums, review sites, and similar spaces (Sigala, 2015). In both cases—and many others—the goal is not to make flying or leaving reviews feel like a game, per se, but rather to make it intrinsically rewarding (Deterding et al., 2011). The shift can be subtle when considered in the abstract, but it is very noticeable to the customer: it transforms must-do tasks into activities that are worth doing for their own sake. This turns consumers into a source of value for each other (Ceccagnoli, 2014; Nicholson, 2015).

Yilmaz and Coskun (2016) provide an especially helpful overview, focusing on the most common applications of gamification within the hospitality industry: frequent flyer and rewards programs, virtual games at tourist destinations, personalized photos made available after visits to theme parks, and so on. Each of these techniques adds new revenue streams, but their core function is to increase customer engagement—to offer more ways for people to feel personally connected to their travel experiences, and,

by extension to the service providers who structure and support those experiences (Park & Bae, 2014; Robson et al., 2015; Xu et al., 2016).

Gamification can serve a more direct purpose, however. In addition to growing businesses by driving customer engagement, it also can change behavior in simpler ways. For instance, the novel challenge of designing smart cities relies heavily on gamification through apps, websites, and system design to encourage necessary behaviors, such as persuading locals to use public transport, purchase domestic products instead of international ones, or use less water (Negrusa et al., 2015; Zica et al., 2018). Just by rewarding actions, comparing individuals' performances, and adding aesthetically satisfying interfaces to help regulate and tabulate routine tasks, designers are able to directly influence users' behavior. Similar techniques can be used in hospitality, and are practiced at present for purposes such as employee training. That and similar applications are reviewed next.

3.1 Behavior change and employee training

Digitalization fundamentally changes the nature of employee training, allowing companies' human capital to become a self-sustaining resource (Vieira et al., 2019). Some methods of doing so are simple, like Google Code Jam and the Facebook Hacker Cup, both of which are programming competitions organized by large tech companies to, in effect, gamify the hiring process. The competitions only exist to encourage prospective employees to exert the maximum possible effort to demonstrate their job-relevant skills, without having to be instructed to do so. They do it because they want to win. Similarly, Marriott's "Marriott My Hotel" is an actual game that allows players to manage certain aspects of hotel operations. High-scoring players then become a potential talent pool, as the game was explicitly targeted at individuals interested at working with Marriott: it was a self-motivated, self-driven application that used a virtual tour to produce a far more accurate assessment of applicants' abilities than would otherwise have been possible (Saha & Pandita, 2017).

But more common are training programs, which use gamified educational programs to make the process of employee training both easier and more successful—and often cheaper as well (Landers & Callahan, 2011). The most basic challenges for hospitality service providers when it comes to training are that their programs must be fast, highly generalizable for many roles, must be delivered via digital interfaces, and yet must be attention-grabbing and effective, given the high turnover and short onboarding process often required for hospitality. Gamification meets that need (Vieira et al., 2019). Organizations are increasingly adopting gamified e-learning methods delivered via an expanding list of platforms, including social networks, mobile apps, and web-based technologies, which are collectively modifying how employees and customers alike discuss and share experiences.

In this way, hospitality companies are just applying the same principles that have been effective elsewhere. Gamification has been used widely—as mentioned above, it is being used in the design of smart cities, for instances—and its utility as an instrument of behavior changes means that it will be central to the digitalized future of hospitality. As Cugelman (2013, p. 5) puts it, "there is promising evidence that suggests gamification works [and] appears to share elements in common with proven health behavior change approaches." Designers of training programs, rewards programs, and other forms of digitalized guest-host interactions should be focusing on core aspects of gamification: "considering flow,

meaningful rewards, making them more social, and most importantly, finding innovative ways to make digital health interventions fun and engaging.”

Perhaps the most dramatic examples of the power of gamification are from government projects around the world. In Australia, for instance, a government app was able to replace 35% of all car trips to school across the country with “healthier” means of transport, such as walking or biking (Zica et al., 2018). Other programs have seen similar results elsewhere. The only thing that remains to be seen is how hospitality innovators will choose to apply gamification. One likely arena is in creating value networks among customers, as described next.

3.2 Customer loyalty and other network effects

If the first use of gamification is to increase engagement, interest, and intrinsic motivation, what is the second? The answer has to do with the way in which digitalized hospitality companies grow. By gamifying online loci of customer interactions, service providers can turn pro-company behavior into a social arena. Perhaps the best examples of how to do this well are TripAdvisor and Airbnb (which is reviewed in depth in Section 4). TripAdvisor requires less attention.

TripAdvisor is fundamentally an online platform. It offers travel information—hours that businesses are open, recommendations for where to eat, and so on—and so its non-gamified function is similar to Google’s automated search results for local businesses. In a slightly more abstract sense, TripAdvisor is simply a replacement for travel brochures of the kind found in such abundance in hostels, information kiosks, and train stations the world over. But there is an entire second half to TripAdvisor’s business model, which is the ecosystem of reviews, reviewers, photos, and posts from business owners. This second arena of operations is critical to the company’s success; it would not exist without it. It is also an elaborate exercise in ramification, relying on many elaborate levels of badges, status markers, points, awards, and tallies to encourage, direct, and control users’ social behavior (Nikolić, 2018; Sigala, 2015).

Note that something odd has happened here. Simpler applications of gamification modify individual behavior, like an app that encourages people to ride the bus by giving them a running tally of the carbon emissions they are saving by choosing not to drive (Zica et al., 2018). But for TripAdvisor, digital changes targeted at individuals have become social. Someone with a hard-to-get badge denoting, say, one thousand forum posts, is perceived by other users as more authoritative and more trustworthy (Yoo et al., 2016). They also inspire other users who can readily see the benefits of amassing their own digital rewards.

A recent study confirms the efficacy of these measures. Moro et al. (2019) used a large database of TripAdvisor reviews to ascertain whether gamification was working. They found that it was: total number of badges, “passport” badges, and “explorer” badges (both of which denote specific accomplishments as tourists) were linked to more positive sentiment in user reviews. Being rewarded within the gamified system led guests to give more helpful reviews. Gamification works best over networks.

More generally, there is now a wealth of evidence that gamifying digital platforms is one of the best ways to ensure their success (Hojeghan & Esfangareh, 2011; Maan, 2013). Whether it is accomplished using badges, in-person experiential rewards like VR games, or other tools, gamification gives customers

and intrinsic motive to be loyal and engaged in the long term. For a perfect illustration of how that can lead to explosive growth and massive industry success, there is no better place to turn than to Airbnb.

4. Airbnb as an example of personalized, gamified customer relationships

Airbnb has been phenomenally successful. It has raised more than \$5 billion in funding and was most recently valued at almost \$40 billion, according to a number of sources (Gornall & Strebulaev, 2020; Trefis Team & Great Speculations, 2018). There is widespread agreement in the business press that the company would have no trouble raising additional funds if it wished to do so, and that its ability to function smoothly for three years between its Series F capital injection in March 2017 and its presumed late-2020 IPO is evidence of the company's near-independence from external sources of funding. And yet, they are competing for a market sector that appears to overlap almost perfectly with that in which traditional hotels operate, and even for an innovative disruptor, this kind of success would normally be met with fiercer competition. Why has its journey been so smooth?

There are a number of competing accounts. Most give long lists of the key properties that allow Airbnb to succeed. Forgacs and Dimanche (2016), for instance, mention seven:

1. It helps meet a real, existing need;
2. It disrupts an existing model of a legacy structure;
3. It generates a steady revenue stream based on transaction fees (a 6%-12% non-refundable service fee from the guest and a 3%-5% processing fee from the host);
4. It implements its value proposition using a cloud-based and purpose-built digital platform;
5. It focuses on quality and on user reviews;
6. It established a strong brand early on using traditional marketing tools;
7. It scaled up rapidly.

Similar lists can be found elsewhere. Ismail et al. (2014) narrow it down to just four properties: a compelling experience-based value proposition ("Live like a local"), an accessible and trusted online marketplace, the scalable power of social networks, and well-leveraged assets.

But these lists miss the most fundamental element of Airbnb's success, which is that its network of users, and its online marketplace are ultrapersonalized and heavily gamified, and for those two reasons, they are at the forefront of a new kind of value-generating network. This is *why* Airbnb has been able to scale up so rapidly. Its users are looking for something that no company in the world offers, which is the experience of living alongside and among locals, in pleasant and authentic environments, at competitive prices. Only a relatively small number of residents in any particular place have the ability to fill that need, i.e., have spare rooms or houses, that are actively cleaned and maintained and are located near the middle of local life. Airbnb has done far more than create a marketplace where anyone can list any property for short-term rent, they have designed their platform such that anyone can easily find a small number of properties that are appealing to them specifically, for their own unique reasons, and are then rewarded for doing so thanks to the gamified nature of the interface.

With respect to personalization, Fradkin (2017) found that small changes in available filtering options on the Airbnb website could reduce accurate guest-host matches by as much as 70%, and rejections of guests by hosts would rise by 140%. The implication of these data is that Airbnb's network is hyperpersonalized. The results an individual receives are tailored to their preferences in a way that is simply not possible for a major hotel chain. Marriott, for instance, does not offer the option to stay in a yurt.

With respect to gamification, Airbnb's achievements are no less remarkable. They rely on ratings systems (such as stars), rewards (like "Superhost" badges), and other game-like elements in their platform (Sigala et al., 2019; Xu et al., 2017). Airbnb does gamification better than almost anyone else, and enjoys exceptionally high trust for its review system (Fradkin, Grewal, & Holtz, 2018), which has the effects of (a) offloading costs for marketing and some forms of QA, (b) increasing customer satisfaction, which hovers around 90%, and (c) driving long-term user retention.

Airbnb's social network of overs has another benefit, as well. The effect is called "knowledge spillover," and occurs whenever free-to-use online environments such as forums, message boards, and social media bring experts into contact with non-experts. Under those circumstances, major transfers of knowledge take place, which can dramatically affect individual behavior according to a recent study of firms using SAP services (Ceccagnoli et al., 2014). The key here is that travel preferences can diffuse online in the same way that best practices can: a forum member who is marked as an authority using a badge or similar tool will be listened to, and their advice will affect other potential customers. "Superhosts" will attract more travelers without any changes to their behavior or offerings. Well-reviewed guests will be prioritized as customers at their preferred locations.

The aggregate effect of this degree of personalization and successful gamification is that Airbnb has succeeded in creating its own userbase, not through advertising, but by literally allowing services to be sold that could not otherwise be monetized. Much as budget airlines did in the 2000s, Airbnb allowed people to travel who might not have been able to, and increased frequency of travel for many others, effectively generating its own market as it grew (Forgacs & Dimanche, 2016). Another way to say this is that Airbnb is very emphatically *not* just another online marketplace.

While market places connect supply and demand between customers and companies, digital platforms connect customers to whatever. The platform is a generic "ecosystem" able to link potential customers to anything and anyone, from private individuals to multinational corporations. Everyone can become a supplier of all sorts of products and services at the click of a button. This is the real innovation that digitalization and digital platforms have brought us...What companies such as Uber, Airbnb, Task Rabbit or Postmates have in common is that they are platforms coordinating supply and demand of products and services that in their present form were previously unavailable on the market. (Oskam & Boswijk, 2016, p. 26)

Oskam and Boswijk (2016) call these companies "exponential organizations." Their defining feature is that "the customer [...] starts to manage their own value chain." But of course, this is not quite exactly right: hosts and guests collaboratively create their own value chains. A recent survey-based study found

that Airbnb guests care primarily about convenience and positive interactions with hosts, and very little about amenities or actual services (Priporas et al., 2017). A host of other studies confirm this finding: Airbnb's value, as well as its success, lie in the way it has used digitalization to create uniquely personal, intrinsically rewarding consumer experiences (Ikkala & Lampinen, 2015; Lutz & Newlands, 2018; Paulauskaite et al., 2017).

5. General Discussion

This article has delivered a selective review of the most prominent trends in digitalization in the hospitality industry—namely, personalization and gamification. To summarize, back-of-house management is being revolutionized as new digital tools—including networks of IoT devices as well as improved management systems—allow for new levels of efficiency. Guest-facing, location-based services are gradually automatizing the process of delivering a personal experience. And online and mobile applications are becoming more and more engaging, driving customer loyalty and creating self-scaling new value networks.

With regard to theory, personalization and gamification were previously considered separately, but ongoing research and the present study show that these major trends in hospitality have common causes based in advances in digital technologies, as well as significant effects on each other. Effects of gamification are tied to the recent emphasis on personalization within hospitality, with a multiplicative effect on each other as illustrated in the case of Airbnb and other such "exponential organizations." In some cases, gamification adds to the personalized experience such as for example when one is seeking a trustworthy review or host who has earned such status through gamified user experiences.

With regard to practical implications, the present study points to clear suggestions for businesses in the hospitality sector to adopt value-generating digital trends in order to stay competitive. The industry is increasingly organized around one-on-one relationships between companies and consumers, as well as on mobilizing large self-catalyzing consumer networks. Those relationships are, for the first time, primarily digital, and they depend on two key features: they must be deeply personalized to each prospective guest or client, and they must be intrinsically rewarding—that is, fun on their own terms, not just because they end in a booked room or a pleasant dinner. Personalization and gamification are thus two of the most important trends in tourism today, and together they represent the current version of digitalization. Organizations in the hospitality industry that do not follow exemplars of these digital trends such as Airbnb are surely to fall behind, being unable to generate new value chains between hosts and guests where they previously did not exist.

One limitation of the present study is that it focuses primarily on one case study that exemplifies these dominant shifts toward personalization and gamification. Although Airbnb stands out with its utilization of hyperpersonalization and gamification, there could be other businesses that pursue these strategies, yet nonetheless have failed. If so, it would be worthwhile to investigate why and how. Secondly, it is not yet clear what will come next as digital technologies and their applications rapidly evolve and unanticipated applications emerge from technologies such as the IoT. Speculation abounds, and few things seem certain. Certainly, traditional hospitality service providers will continue to reinvent themselves, relying increasingly on digitalized tools to leverage their resources and compete with the

sharing economy. Their focus may shift from rooms to public and interactional (and digitally enhanced) spaces; the line between business and leisure travel may start to blur. Hotels will likely have to follow Airbnb in becoming more involved with locals. That said, there remains considerable uncertainty as the evolution of digital technologies and their applications are moving forward at breakneck speeds. Although what is to come is not clear, it is at least clear that digital technologies are transformative and agile in their very nature due to possessing characteristics such as reprogrammability, modularity, and connectivity. Thus, uncertainty may be higher than ever, but it poses less of a challenge than in the past.

To the extent possible, future research should focus on tracking and analyzing technology-specific changes in hospitality to make sense of where they are leading the industry, and where they are generating value. Of particular interest is virtual reality, augmented reality, and artificial intelligence. What is known so far is that virtual and augmented reality are still significantly underutilized in hospitality. Existing applications are straightforward, such as virtual guided tours (Corrêaa & Kitanoa, 2015). More advanced applications are only just beginning to appear (Guttentag, 2010; Ristova & Dimitrov, 2019), and it is not yet clear where they are leading (Xu et al., 2016).

The other trend that is all but certain to grow is the use of AI, though its specific applications are a matter of speculation. At present, data safety and privacy are major barriers to more expansive use of artificial intelligence, but as those issues are overcome, it will begin to be fully integrated into hospitality services. For one very simple illustration of what AI will do, consider that it is likely to replace many websites. For instance, Zsarnocky (2017) presents a case study of the use of an AI chatbot system at the Matra Resort tourism project in Hungary. Over a six-month period, the study recorded 301 conversations with the site's chatbot, which was programmed with answers to 145 common questions about accommodation options, travel and transportation, and on- and off-site programming. The ten most common questions accounted for 87% of all queries. Crucially, the large majority of all chatbot interactions were used to find simple information that was readily available on the website, such as the location of the guest house and the list of available programs. The function of the chatbot, in other words, was not to augment or complement the website but effectively to deliver the website's contents through a new, interactive interface.

And that is only the very, very beginning. From robot receptionists and cleaners to digital concierges, tour guides, and surfing instructors, artificial intelligence is likely to dominate the future of hospitality. It is the only way for personalization to increase, for gamification to become more widespread, and for guest experiences to continue to become ever-more saturated and enhanced by digitalization.

6. References

- Adara. (2019). *Getting to peak personalization*. <https://adara.com/lp-peak-personalization/>
- Atzori, L., Iera, A., & Morabito, G. (2010). The internet of things: A survey. *Computer Networks*, 54(15), 2787-2805.
- Bhutani, S., & Paliwal, Y. (2015). Digitalization: a step towards sustainable development. *OIDA International Journal of Sustainable Development*, 8(12), 11-24.

- Breukel, A., & Go, F. M. (2009). Knowledge-based network participation in destination and event marketing: A hospitality scenario analysis perspective. *Tourism Management*, 30(2), 184-193.
- Capriello, A., & Riboldazzi, S. (2019). How can a travel agency network survive in the wake of digitalization? Evidence from the Robintur case study. *Current Issues in Tourism*, 1-4.
- Ceccagnoli, M., Forman, C., Huang, P., & Wu, D. J. (2014). Digital platforms: when is participation valuable?. *Communications of the ACM*, 57(2), 38-39.
- Collins, G. R. (2010). Usable mobile ambient intelligent solutions for hospitality customers. *Journal of Information Technology Impact*, 10(1), 45-54.
- Corrêaa, C., & Kitanoa, C. (2015, February). Gamification in tourism: Analysis of brazil quest game. In *Proceedings of ENTER* (Vol. 2015).
- Cugelman, B. (2013). Gamification: what it is and why it matters to digital health behavior change developers. *JMIR Serious Games*, 1(1), e3.
- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011, September). From game design elements to gamefulness: defining gamification. In *Proceedings of the 15th International Academic MindTrek conference: Envisioning Future Media Environments* (pp. 9-15). Yew York, NY: ACM Press.
- Duetto. (2017). GuestCentric and Duetto partner to bring personalization to hotel bookings [Press release]. <https://www.duettocloud.com/press-releases/guestcentric-duetto-partner-bring-personalization-hotel-bookings>
- Forgacs, G., & Dimanche, F. (2016). Revenue challenges for hotels in the sharing economy: facing the Airbnb menace. *Journal of Revenue and Pricing Management*, 15(6), 509-515.
- Fradkin, A. (2017). Search, matching, and the role of digital marketplace design in enabling trade: Evidence from airbnb. Matching, and the Role of Digital Marketplace Design in Enabling Trade: Evidence from Airbnb (March 21, 2017). Working paper, MIT Sloan.
- Fradkin, A., Grewal, E., & Holtz, D. (2018). The determinants of online review informativeness: Evidence from field experiments on Airbnb. Working paper.
- Gornall, W., & Strebulaev, I. A. (2020). Squaring venture capital valuations with reality. *Journal of Financial Economics*, 135(1), 120-143.
- Guttentag, D. A. (2010). Virtual reality: Applications and implications for tourism. *Tourism Management*, 31(5), 637-651.
- Hojeghan, S. B., & Esfangareh, A. N. (2011). Digital economy and tourism impacts, influences and challenges. *Procedia-Social and Behavioral Sciences*, 19, 308-316.
- Ikkala, T., & Lampinen, A. (2015, February). Monetizing network hospitality: Hospitality and sociability in the context of Airbnb. In *Proceedings of the 18th ACM conference on computer supported cooperative work & social computing* (pp. 1033-1044).

- Kansakar, P., Munir, A., & Shabani, N. (2019). Technology in the Hospitality Industry: Prospects and Challenges. *IEEE Consumer Electronics Magazine*, 8(3), 60-65.
- Kasavana, M. (2014, June 1). Hospitality industry: Connecting the unconnected, the Internet of Everything. Hospitality Upgrade.
<https://www.hospitalityupgrade.com/magazine/MagazineArticles/Hospitality-Industry-Connecting-the-Unconnected-The-Internet-of-Everything.asp/>
- Landers, R. N., & Callan, R. C. (2011). Casual social games as serious games: The psychology of gamification in undergraduate education and employee training. In M. Ma, A. Oikonomou, & L. Jain (Eds.), *Serious games and edutainment applications* (pp. 399-423). Springer, London.
- Lim, W. (2010). *The Effects of social media networks in the hospitality industry* ('master's thesis). William F. Harrah College of Hotel Administration, University of Nevada, Las Vegas.
- Litvin, S. W., Goldsmith, R. E., & Pan, B. (2008). Electronic word-of-mouth in hospitality and tourism management. *Tourism Management*, 29(3), 458-468.
- Lutz, C., & Newlands, G. (2018). Consumer segmentation within the sharing economy: The case of Airbnb. *Journal of Business Research*, 88, 187-196.
- Maan, J. (2013). Social business transformation through gamification. *International Journal of Managing Information Technology*, 5(3), 9-16.
- Montargot, N. (2016). Digitalisation Advances and Hospitality Service Encounters. *Symphonya. Emerging Issues in Management*, 1, 64-74.
- Moro, S., Ramos, P., Esmerado, J., & Jalali, S. M. J. (2019). Can we trace back hotel online reviews 'characteristics using gamification features?. *International Journal of Information Management*, 44, 88-95.
- Mosca, F., Youssef, K. B., & Majd, T. (2017). Online communication and Italian tourism. *Symphonya. Emerging Issues in Management*, 2, 31-45.
- Negruşa, A., Toader, V., Sofică, A., Tutunea, M., & Rus, R. (2015). Exploring gamification techniques and applications for sustainable tourism. *Sustainability*, 7(8), 11160-11189.
- Nicholson, S. (2015). A recipe for meaningful gamification. In L. Wood & T. Reiners (Eds.), *Gamification in education and business* (pp. 1-20). Yew York: Springer.
- Nikolić, R. (2018). Gamification in trip planning mobile applications and websites: The case of TripAdvisor (Doctoral dissertation, RIT Croatia.).
- Oskam, J., & Boswijk, A. (2016). Airbnb: the future of networked hospitality businesses. *Journal of Tourism Futures*, 2(1), 22-42.
- Ozturk, A. B., Nusair, K., Okumus, F., & Hua, N. (2016). The role of utilitarian and hedonic values on users 'continued usage intention in a mobile hotel booking environment. *International Journal of Hospitality Management*, 57, 106-115.

- Park, H. J., & Bae, J. H. (2014). Study and research of gamification design. *International Journal of Software Engineering and Its Applications*, 8(8), 19-28.
- Paulauskaite, D., Powell, R., Coca-Stefaniak, J. A., & Morrison, A. M. (2017). Living like a local: Authentic tourism experiences and the sharing economy. *International Journal of Tourism Research*, 19(6), 619-628.
- Popescu, M. A., Nicolae, F. V., & Pavel, M. I. (2015). Tourism and hospitality industry in digital era: General overview. In *Proceedings of the 9th International Management Conference* (pp. 163-168).
- Priporas, C. V., Stylos, N., Rahimi, R., & Vedanthachari, L. N. (2017). Unraveling the diverse nature of service quality in a sharing economy. *International Journal of Contemporary Hospitality Management*, 29(9), 2279-2301.
- Ristova, C. (2019). Digitalization in hospitality: Big data, trend that transformed the hotel industry. *International Scientific Journal CENTRUM*, 12, 49-63.
- Ristova, C., & Dimitrov, N. (2019). Digitalisation in the hospitality industry-trends that might shape the next stay of guests. *International Journal of Information, Business and Management*, 11(3), 144-154.
- Robson, K., Plangger, K., Kietzmann, J. H., McCarthy, I., & Pitt, L. (2015). Is it all a game? Understanding the principles of gamification. *Business Horizons*, 58(4), 411-420.
- Rosman, R., & Stuhura, K. (2013). The implications of social media on customer relationship management and the hospitality industry. *Journal of Management Policy and Practice*, 14(3), 18-26.
- Saha, M. D., & Pandita, D. (2017). Digitalizing human resources through gamification for employee engagement. *ELK Asia Pacific Journals*, 4th IHRC, 978-93-85537-03-5.
- Sezgin, E. (2016). *e-Consumers in the ra of New Tourism*. Springer.
- Shamim, S., Cang, S., Yu, H., & Li, Y. (2017). Examining the feasibilities of Industry 4.0 for the hospitality sector with the lens of management practice. *Energies*, 10(4), 499.
- Sigala, M. (2015). The application and impact of gamification funware on trip planning and experiences: The case of TripAdvisor's funware. *Electronic Markets*, 25(3), 189-209.
- Sigala, M., Toni, M., Renzi, M. F., Di Pietro, L., & Mugion, R. G. (2019). Gamification in Airbnb: Benefits and Risks. *e-Review of Tourism Research*, 16(2/3), 24-32.
- Singh, S. P. (2012). Gamification: A strategic tool for organizational effectiveness. *International Journal of Management*, 1(1), 108-113.
- Sojern & SkiftX. (2019, January 17). Personalization in travel marketing: Moving beyond the buzzword. Skift Digital. <https://skift.com/2019/01/17/personalization-in-travel-marketing-moving-beyond-the-buzzword/>
- Spelman, M., Weinelt, B., Keitel, J., Misrahi, T., Siyam, R., de Maar, L., Goldman, B., Jolly, H., Shah, A., Bhat, R., Janssen, C., Maksutaj, N., & Schoonbeek, R. (2017). Digital transformation initiative: Aviation, travel, and tourism industry. World Economic Forum.

<http://reports.weforum.org/digital-transformation/wp-content/blogs.dir/94/mp/files/pages/files/wef-dti-aviation-travel-and-tourism-white-paper.pdf>

Sudhagar, D. P. (2019). Digitalization in the hotel industry- An exploratory study to understand the digitalization involvement in hotels. *Advance and Innovative Research*, 6(1), 100-105.

Trefis Team & Great Speculations. (2018, 11 May). "As A Rare Profitable Unicorn, Airbnb Appears To Be Worth At Least \$38 Billion." Forbes. Retrieved from <https://www.forbes.com/sites/greatspeculations/2018/05/11/as-a-rare-profitable-unicorn-airbnb-appears-to-be-worth-at-least-38-billion/#11cfeeb12741>.

Ukpabi, D. C., & Karjaluoto, H. (2017). Consumers' acceptance of information and communications technology in tourism: A review. *Telematics and Informatics*, 34(5), 618-644.

Vieira, C. P., Calisto, M. L., & Gustavo, N. (2019). Gamification applied to training in the hotel industry. *Dos Algarves. A Multidisciplinary E-journal*, 34, 81-100.

Wang, Y., So, K. K. F., & Sparks, B. A. (2017). Technology readiness and customer satisfaction with travel technologies: A cross-country investigation. *Journal of Travel Research*, 56(5), 563-577.

Xu, F., Buhalis, D., & Weber, J. (2017). Serious games and the gamification of tourism. *Tourism Management*, 60, 244-256.

Xu, F., Tian, F., Buhalis, D., Weber, J., & Zhang, H. (2016). Tourists as mobile gamers: Gamification for tourism marketing. *Journal of Travel & Tourism Marketing*, 33(8), 1124-1142.

Xu, F., Weber, J., & Buhalis, D. (2013). Gamification in tourism. In Z. Xiang and I. Tussyadiah (Eds.), *Information and communication technologies in tourism 2014* (pp. 525-537). Springer Switzerland.

Yaldaie, T. (2019). Profitability analysis of digitalization tools for small hospitality service providers: a case study (master's thesis). Lappeenranta University of Technology.

Yilmaz, H., & Coşkun, I. (2016). New Toy of Marketing Communication in Tourism: Gamification. In E. SEzgin (Ed.), *e-Consumers in the Era of New Tourism* (pp. 53-71). Singapore: Springer.

Yoo, K. H., Sigala, M., & Gretzel, U. (2016). Exploring TripAdvisor. In R. Egger, I. Gula, & D. Walcher (Eds.), *Open tourism* (pp. 239-255). Springer: Berlin.

Zica, M. R., Ionica, A. C., & Leba, M. (2018, January). Gamification in the context of smart cities. In *IOP Conference Series: Materials Science and Engineering* (Vol. 294, No. 1, p. 012045). IOP Publishing.

Zsarnoczky, M. (2017a). How does artificial intelligence affect the tourism industry? *Vadyba Journal of Management*, 31(2), 85-90.

Zsarnoczky, M. (2018). The digital future of the tourism & hospitality industry. *Boston Hospitality Review*, 6, 1-10.

FACTORS INFLUENCING PURCHASE DECISION OF REAL ESTATE: AN EMPIRICAL EVIDENCE FROM INDIA

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Abstract

The Real estate is one of the booming sectors of the Indian Economy. It is expected to contribute 13 percent of the country's GDP by 2025. With the advent of globalization, the demand of real estate is steeply increasing for residence and office space. Real estate sector is also giving job opportunities and it has a cascading effect on the ancillary industries. Although real estate can be segregated into four sub-sectors i.e., housing, retail, hospitality, and commercial but the focus of the study is on the housing sectors. The study is confined to residential real estate, mainly flats. The main focus of the study is to identify and assesses the various factors that buyers look upon while buying real estate. For the purpose of study 65 respondents were selected from different parts of the city of Kolkata in India.

KEYWORDS: Real estate, Purchase decision factors, Variation and dependency, Association of factors.

1. Introduction

There has been a paradigm shift in the Indian Economy in the last five years. Real estate sector has witnessed many reforms in the last five years. The GST council has drastically reduced the GST rate for under-construction residential properties thereby reduce the cost of home buying for all buyers, especially

for the middle-class buyers. Earlier due to increasing GST rate investors were only interested to buy ready properties as GST was out of ambit on ready flats. Now due to the slashing of GST rates on under-construction properties buyers are also buying under construction properties. Secondly, the Reserve Bank of India has cut the REPO rates thereby facilitating the reduction in the interest rate charged by home mortgage lenders. Thirdly, the formation of the Real Estate Regulatory Authority (RERA) which ensure safeguard of the home buyers from fraudulent builders is contributing to the growth of real estate industries. Finally, with the introduction of Pradhan Mantri Awas Yojana (PMAY) which will provide affordable housing to the urban poor by 31st of March 2022, it is expected to contribute for the growth of real estate industries. Under PMAY (Urban) a first-time buyer with a family income restricted to Rs. 18 lakhs per annum will get a home loan subsidy of up to 6.5 percent. Also, with the introduction of the CIBIL score (a standard mechanism to assess the creditworthiness), the home loan processing time is very fast nowadays. Now a days because of nuclear family the demand for small household sizes residential estate are increasing, thus demographic factor is playing an important role for modern housing. Real estate is also a good option for investment. Huge profit can be earned from the appreciation of real estate price in the long run. One can also earn rental income from the real estate properties.

2. Literature Review

Quigely (1976) explored that features of the apartment is an important factor that determine the household choice. He also stated that physical influence and property feature are important determinant that affects the choice of household.

Gabriel & Rosenthal (1989) stated in their study that individual's characteristics of the household and neighbourhood quality are the important factors that affect the household's residential choice.

Adair et al. (1996) concluded that physical facilities play a positive role in case of selecting household in a particular location. Physical influence will include design of the property, the quality of the property, and the size of the property.

Agarwal (2003) investigated that in Delhi, location is the most important factor that customer has in its mind while buying a property. The builders /promoters try to explain the buyers the advantages of the location of their project. After location, the buyers look for accessibility, security, parking, etc. He also concluded that buyer nowadays doesn't ask for the price, instead, they ask for location and amenities. The author also conducted a study in Pune, from it he concluded that homebuyers are ready to pay the extra price for amenities such as gym garden, etc.

Deb (2005) came out with a view that every home buyer should classify the housing requirement into three categories: essential, desirable, and bonus. By segregating into three categories, the buyer can easily trade-offs between various options of houses. For example, the city vs. suburban, distance of children school vs. distance of office, etc.

Zadkariml & Emari (2011) concluded in their study that for the middle-income group, word of mouth is one of the most influential factors for the purchase of the house. However, for high-income group product and service quality are the most influential factor for the purchase of the house.

Lonappan (2013) stated that for flat buyers in Mangalore city the most important factor was the location of the property followed by price, environment, neighbourhood, and the local community. The author also observed that the swimming pool is not an influential factor for the middle-income group.

Mittal & Singh (2014) stated that in NCR road connectivity is one of the most influential factors for most of the home buyers followed by the affordable price of the property and job opportunities. According to them for the people of NCR availability of public transport was not an important influential factor. He also concluded that sometimes home buyers try to balance between job opportunities and future valuation of properties.

Manivannan & Somasundaram (2014) stated in their study that they conducted in Tamil Nadu is that basic amenities are the most important factor for buying residential properties followed by proximity, connectivity, environment, etc.

Gajera & Lomalek (2018) conducted a study on consumer behaviour in real estate for Vadodara city. There the researcher concluded that general selection of houses is based on economic capabilities. For a buyer whose fund is constraint he will go for 1 BHK, an economically strong person will go for 2 BHK or more. Along with that, the consumers will also give importance to the locality.

Negi (2019) conducted a survey in the first quarter of 2019 and found that in Kolkata 44 percent of the respondents preferred to invest in real estate, followed by 27 percent preferred to invest in Fixed Deposits. In Kolkata, the major factors that influence homebuyers are the lowest home loan rates. 58 percent of the respondents are influenced by the lowest home loan rates followed by 38 percent of the respondents are influenced by attractive prices offered by the developers. Also according to the survey only 4 percent of the respondents are influenced by setting up of RERA.

3. Objectives of the Study

After going through the literature review it has been found that very few studies were done on consumer behaviour related to real estate especially related to Indian scenario. The general objective of this study is to assess the buying behaviour of the respondents with respect to real estate. The specific objectives of the study are as follows:

- To assess the factors that buyers look upon while buying real estate for residential purposes.
- To find out how various demographic factors affect the purchase decisions of real estate.

4. Research Methodology

The present study is empirical and exploratory in nature. This study had considered various types of primary and secondary data as per the requirement.

For the purpose of the study, the sample was collected from existing buyers and potential buyers of flats who were interested to buy flats at Kolkata in India. The study was based mainly on the information available through a structured questionnaire put across buyers either through Google form or through hard copies of the questionnaire.

The data was collected from 65 respondents. The total time taken for data collection was from October 2019 to January 2020.

Stratified sampling technique was adopted with each sector being treated as a stratum. On each stratum, quota sampling was applied for the collection of data through a structured questionnaire.

In this study, six major factors were identified that influenced the purchase decisions of the real estate buyers. These are

- i. **Location Factor:** This is one of the most significant factors in choosing a real estate. To measure the effect of location factor on buying real estate five attributes were considered which are convenient of the location where the buyer wants to buy the residential estate, proximity to the workplace from the residential estate, accessibility to nearby market from residential estate, accessibility to school for children and presence of banks / post office nearby.
- ii. **Price Factor:** The present price of real estate is one of the major factors that influences the buyer to invest in real estate. Every buyer depending upon their economic capabilities has their own capacity to buy real estate. Some people may prefer to purchase real estate when the price are moving up as they expect that in future the price may rise even more, whereas some people wait for the price to fall and then purchase at a lower price. To measure the importance of price factor six attributes were considered which are regarding how much they are influenced by the lowest price of the property among all other available option, comparative neighbourhood price was higher, future apprehension in the price, municipal tax and other taxes that levied on the property and easy availability of loan.
- iii. **Design Factor:** The design factor is also considered as one of the influential factors. To study the design factor eight attributes were considered which are the availability of living space, lift facilities, parking facilities, attached washroom with the bedroom, good view from the window, decorative entrance door, good quality building, and flat is suited as per VASTU.
- iv. **Public Service:** Availability of public services happens to be an important factor in searching for a house. Under public services six attributes were considered such as availability of public transport, hospitals, everyday garbage cleaning facility, etc. are also one of the determinants that investors consider before investing in a particular real estate.
- v. **Security Factor:** The real estate must be safe and secure. One will not be interested to buy a flat in an area where the area is unsafe and crime is very active. So to measure the importance of security factor total 7 attributes were considered. Those attributes are the presence of 24*7 CCTV facility, presence of security guard 24*7, fire extinguisher, proximity to the police station and fire station, checking done by security personnel whenever maid and visitors enter into the campus.
- vi. **Luxury Factor:** These factors mainly influenced the buyer who belongs to high income group. Six attributes that are considered under luxury factors are free pick up and drop for sites in AC car, availability of swimming pool, playground, modern gym, water treatment plant and senior areas for senior citizens.

5. Data Analysis and Findings

In this section, data have been analysed from the responses received through a structured questionnaire from 65 homebuyers residing in Kolkata vis-a-vis South Kolkata, North Kolkata, Rajarhat and Behala. This section contains the demographic profile of respondents, factors influencing the purchase decision of real estate, dependency and variation of the factors on various demographic characteristics of the respondents and correlation among the six factors.

Reliability of the Data Sets Used for Different Scales: Cronbach's alpha coefficient confirms the internal consistency of the set of items of a given scale.

Table 1: Table Showing Cronbach's Alpha Value for Different Factors

Factors	Location	Price	Design	Public Services	Security	Luxury
Cronbach's Alpha	0.811	0.601	0.695	0.718	0.835	0.673

Since all the value are more than 0.60, it can be said that the internal consistency of data is satisfactory.

5.1 Demographic Characteristics of the Respondents

65 respondents were taken from Kolkata who already has flats or want to buy flats in South Kolkata, North Kolkata, Rajarhat / New Town area / Eastern Kolkata (Behala side).

Table 2: Demographic Profile of the Respondents

Demographic Characteristics	Class	Frequency	Percentage
Age (years)	Less than 25	03	04.62
	25 - 35	15	23.08
	36 - 45	22	33.85
	46 - 55	20	30.77
	Above 55	05	07.69
	Total	65	100.00
Gender	Male	35	53.85
	Female	30	46.15
	Total	65	100.00
Marital Status	Single	30	46.15
	Married	32	49.23
	Divorced	03	04.62
	Total	65	100.00
Educational Qualification	Higher Secondary	11	16.92
	Graduate	30	46.15
	Post Graduate	24	36.92
	Total	65	100.00
Occupation	Business	13	20.00
	Service	31	47.69
	Professional	15	23.08
	Retired	06	09.23
	Total	65	100.00
Annual Income (Rupees in	Less than 5	25	38.46
	5 - 10	23	35.38

Lakhs)	10 - 15	13	20.00
	More than 15	04	06.15
	Total	65	100.00
Family Type	Joint Family	35	53.85
	Nuclear Family	30	46.15
	Total	65	100.00

The aforesaid table shows the demographic profile of the 65 respondents. Out of 65 respondents, 35 respondents are male and 30 respondents are female. 33.85% of the respondents belong to the age group of 36 - 45 years followed by 30.77% of the respondents belonging to the age group of 46 - 55. As regard to the educational qualification, 46.15% of the respondents are graduates, 36.92% are postgraduates. The majority of the respondents i.e., 47.69% of the respondents are doing service followed by 23.08% who are professional.

Table 3: Distribution of Home Buyers According to Number of Rooms

Room Size	Frequency	Percentage
1 BHK	10	15.38
2 BHK	21	32.31
3 BHK	30	46.15
4 BHK	04	06.15
Total	65	100.00

From the above table, it is found that 46.15% of the respondents are staying or prefer to stay in 3 BHK flats, followed by 32.31% of the respondents who are staying or prefer to stay in 2 BHK flats. The demand for 4 BHK flats is the lowest i.e., only 6.15% of the respondents are staying or prefer to stay in 4 BHK flats.

Table 4: Location-wise Distribution of Respondents

Location	Frequency	Percentage
South Kolkata	22	33.85
North Kolkata	19	29.23
Rajarhat	14	21.54
Behala	10	15.38
Total	65	100.00

From the above table, it can be observed that 33.85% of the respondents are staying or prefer to stay in South Kolkata, followed by 29.23% of the respondents who are staying or prefer to stay in North Kolkata. 21.54% of the respondents are staying or preferring to stay at Rajarhat. It was also found that only 15.38% of the respondents are staying or prefer to stay at Behala.

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Table 5: Distribution of Home Buyers According to their Repetition of Purchase

Particulars	Frequency	Percentage
Flats purchased for the first time	40	61.54
Flats purchased for the second time	19	29.23
Flats purchased for the third and subsequent times	06	09.23
Total	65	100.00

From the above table, it can be observed that 61.54% of the respondents will buy a flat for the first time followed by 29.23% of the respondents who prefer to buy flat for the second time. It was also observed that only 9.23% of the respondents prefer to buy flat for the third or subsequent time.

5.2 Variation of Factors related to Purchase Decision of Real Estate Based on Various Demographic Characteristics

This segment focused upon the impact of various demographic factors like age, gender, marital status, Educational Qualification, occupation on different factors that affects the decision of buying the real estate. It has been found that age, gender, marital status, educational qualification, and income level influence the choice regarding the purchase of real estate.

Table 6: Variation of Factors Based on Age

Age (Years)	<25	25-35	36-45	46-55	>55
No of Respondents	03	15	22	20	05
Factor	Mean				
Location	4.73	4.15	4.20	4.07	4.44
Price	4.17	3.92	3.87	3.85	3.97
Design	4.08	4.22	4.27	4.36	4.33
Public Services	3.94	4.32	4.09	4.13	3.90
Security	4.38	4.35	4.27	4.21	4.20
Luxury	3.83	3.63	3.55	3.62	3.60

The above table reveals that respondents irrespective of their age are giving the least importance to luxury factors. Respondents from the younger generation i.e. up to the age of 25 years and respondents from elder citizen are giving maximum priority to location factors. Whereas, people who are in the middle age group i.e., 25 years to 55 years are giving maximum priority to security factors.

Table 7: Variation of Factors Based on Gender

Gender	Male	Female
No of Respondents	35	30
Factor	Mean	
Location	4.16	4.23

Price	3.83	3.98
Design	4.26	4.31
Public Services	4.13	4.14
Security	4.23	4.31
Luxury	3.67	3.53

It can be observed from the above table that the mean score irrespective of gender is more than 4 except in case of luxury factors where irrespective of gender the mean score is less than 4. So irrespective of gender, the respondents are giving importance to all the factors except the luxury factor.

Table 8: Variation of Factors Based on Educational Qualifications

Educational Qualification	Higher Secondary	Graduate	Post-Graduation
No of Respondents	11	30	24
Factor	Mean		
Location	4.41	4.11	4.18
Price	3.95	3.97	3.78
Design	4.17	4.26	4.36
Public Services	4.05	4.13	4.18
Security	4.50	4.19	4.26
Luxury	3.74	3.47	3.71

It can be noted from the above table that educational qualification affects the various factors regarding the purchase of real estate and that are highly correlated with each other. It can be observed that respondents irrespective of their educational qualifications are giving the least priority to luxury factors. Respondents irrespective of their educational qualification are giving least importance to security factors.

Table 9: Variation of Factors Based on Annual Income

Income (Rs. in Lakhs)	<5	05-10	10-15	>15
No of Respondents	25	23	13	4
Factor	Mean			
Location	4.20	4.26	4.05	4.20
Price	3.89	3.96	3.77	4.04
Design	4.34	4.21	4.25	4.47
Public Services	4.20	4.07	4.17	4.04

Security	4.25	4.22	4.41	4.25
Luxury	3.56	3.56	3.74	3.71

The above table reveals that annual income affect the various factors regarding the purchase of real estate and that are highly correlated with each other. Respondents irrespective of their annual income are giving the least priority to luxury factors. Respondents whose annual income is less than Rs. 5 lakhs are giving maximum importance to the design factor. Respondents whose income lies between Rs. 5 to 10 lakhs are giving maximum importance to location factors. Respondents whose annual income is between Rs. 10 to 15 lakhs are giving maximum importance to security factors and respondents who are earning maximum income are giving maximum preference to Security factors.

Table 10: Variation of Factors Based on Marital Status

Marital status	Single	Married	Divorced
No of Respondents	30	32	03
Factor	Mean		
Location	4.25	4.14	4.13
Price	3.90	3.89	4.00
Design	4.33	4.25	4.21
Public Services	4.22	4.04	4.28
Security	4.42	4.13	4.19
Luxury	3.71	3.52	3.44

Like previous cases, here also the respondents irrespective of their marital status are giving the least priority to luxury factors. Respondents who are single for them security factor is the most important factor and respondents who are married their most important factor is location factor.

5.3 Analysis of Factors Influencing the Purchase Decision of Real Estate

The various factors that affect the decision of buying real estate of the sample respondents have been measured with the help of a bipolar scale (1-2-3-4-5). Two extreme ends of the scale 1 and 5 signify low and very high influential level respectively. The 6 personality attributes, like Location factors, Price factors, Design factors, public factors, Security factors, and luxury factors are depicted from extreme low to extreme high influential level from left to right of the scale.

In the following tables below the score “1 - 2” indicates low influential level of attribute, score “2 - 3” means moderate influential level of attributes, score “3 - 4” reveals high influential level of attributes, score “4 - 5” reveals very high influential level of attributes.

Table 11: Influence of Location Factor on Purchase Decision

Influence	Frequency	Percentage
Low	10	15.40
Moderate	15	23.10
High	24	36.90

Very high	16	24.60
Total	65	100.00

From the above table, it can be noted that for 36.90% of the respondents the impact of location factor is high. Whereas, for 24.60% of the respondents the impact is very high. Only for 15.40% of the respondents, the impact is low i.e., for them the location of real estate is not so important factor.

Table 12: Influence of Price Factor on Purchase Decision

Influence	Frequency	Percentage
Low	00	00
Moderate	02	03.10
High	43	66.20
Very high	20	30.70
Total	65	100.00

It can be observed from the aforesaid table that 66.20% of the respondents considered price factor as highly influential factor followed by 30.70% of the respondents for whom price is a very high influential factor.

Table 13: Influence of Design Factor on Purchase Decision

Influence	Frequency	Percentage
Low	00	00
Moderate	08	12.31
High	17	26.15
Very high	40	61.54
Total	65	100.00

The above table shows that respondents are very much conscious about the design of the real estate. The design factor is having a very high influence on purchase decisions relating to buying of real estate on 61.54% of the respondents followed by 26.15% of the respondents who considered design factors to be having a high influence on their purchase decision. 12.31% of the respondents considered design factor to be having moderate influence on their purchase decision. None of the respondent's influential level regarding design factor is low which shows that the design factor is treated as one of the most important factor that respondents consider before buying a real estate.

Table 14: Influence of Public Services Factor on Purchase Decision

Influence	Frequency	Percentage
Low	05	07.70
Moderate	24	36.90
High	36	55.40
Very high	00	00
Total	65	100.00

It can be noted that so far public service is concerned it is having a high impact on 55.40% of the respondents. The impact of public service is moderate on 36.90% of the respondents and it is having a low influence on 07.70% of the respondents. None of the respondents considered the public service as a very high influential factor.

Table 15: Influence of Security Factor on Purchase Decision

Influence	Frequency	Percentage
Low	02	03.10
Moderate	24	36.90
High	39	60.00
Very high	00	00
Total	65	100.00

The aforesaid table reveals that security factors are having a high and moderate influence among 60% and 36.90% of the respondents respectively. Only for 3.10% of the respondents, the influence of security factors is low.

Table 16: Influence of Luxury Factor on Purchase Decision

Influence	Frequency	Percentage
Low	02	03.10
Moderate	10	15.40
High	37	56.90
Very high	16	24.60
Total	65	100.00

The above table shows that for 56.90% of the respondents the influence of luxury factor is high followed by 24.60% of the respondents whose influence is very high. So, 81.5% of the total respondents considered luxury factor to be having a high or a very high impact on their decision regarding the purchase of the real estate. So it can be said that maximum of the respondents are very much concerned about the luxury factors while buying real estate.

5.4 Dependency of Factors on Various Demographic Characteristics

In following tables the dependency of the various factors that influence purchase decision of real estate based on age, marital status, educational qualification, occupation, income have been studied.

Table 17: Dependency of the Factors Influencing Buying of Real Estate on Various Demographic Factors

Factor	Age		Gender		Marital Status		Family Type		Occupation		Annual Income	
	F-Value	P-Value	F-Value	P-Value	F-Value	P-Value	F-Value	P-Value	F-Value	P-Value	F-Value	P-Value
Locatio	3.28	0.04*	3.27	0.04	3.52	0.03*	0.35	0.55	0.45	0.72	0.45	0.72

n				*								
Price	0.34	0.84	1.73	0.19	0.08	0.92	0.05	0.82	0.36	0.78	0.36	0.78
Design	0.38	0.81	0.22	0.63	0.20	0.74	0.26	0.61	0.09	0.96	0.09	0.96
Public Services	0.61	0.653	0.00	0.97	0.74	0.47	2.58	0.03*	1.03	0.39	1.03	0.39
Security	0.16	0.95	0.26	0.61	1.85	0.16	0.03	0.84	0.77	0.52	0.77	0.52
Luxury	0.11	0.97	0.65	0.42	0.62	0.53	2.54	0.05*	0.34	0.80	0.34	0.80

*Significant at 0.05 level.

From the above table, it can be observed that the location factor is having a significant impact on age, gender, and marital status at a 5% level of significance. So we are rejecting the null hypothesis and accepting the alternative hypothesis i.e. we can say that location factor will be affected by the age, gender, and marital status of the respondents. So, based on the age group, gender and marital status the decision to buy real estate in a particular location will varies.

Public services and luxury factor are having a significant relationship with family type at 5% level of significance i.e., we can say depending on the type of family the perception regarding public services and luxury services will vary.

With respect to occupation and annual income, there is no significant relationship with any of the attributes i.e., we can say occupation and annual income don't have a significant impact on any of the attributes that determine the purchase decisions of real estate.

5.5 Association of Purchase Decision Factors

Under this sub-section the correlation coefficient between each pair of the factors was done to find out if there is any significant association between these pairs.

Table 18: Showing Correlations between Different Factors

Factor		Location	Price	Design	Public Services	Security	Luxury
Location	Pearson Correlation	1	0.162	0.074	0.207	0.038	-0.039
	sig. (2-tailed)		0.198	0.556	0.099	0.765	0.755
Price	Pearson Correlation	0.162	1	0.095	0.115	-0.023	0.172
	sig. (2-tailed)	0.198		0.453	0.363	0.853	0.169
Design	Pearson Correlation	0.074	0.095	1	.452**	.372**	0.229
	sig. (2-tailed)	0.556	0.453		0.000	0.002	0.066

Public Service	Pearson Correlation	0.207	0.115	.452**	1	.395**	.344**
	sig. (2-tailed)	0.099	0.363	0.000		0.001	0.005
Security	Pearson Correlation	0.038	-0.023	.372**	.395**	1	.558**
	sig. (2-tailed)	0.765	0.853	0.002	0.001		0.000
Luxury	Pearson Correlation	-0.039	0.172	0.229	.344**	.558**	1
	sig. (2-tailed)	0.755	0.169	0.066	0.005	0.000	

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

From the aforesaid table, it can be observed that correlation coefficient among all pair of variables are positive i.e., they move in the same direction except in case of correlation between location and luxury factor, and in between price and security factors but these are not significant at 1% or 5% level of significance.

The correlation which is significant at a 1% level is between design factor with public and security factors, public and security factors, public service and luxury factors, and security and luxury factors. There is also a correlation among other variables but they are not significant at 1% or 5% level of significance.

6. Concluding Remarks

The study aims to explore the various factors that affect the buying decision of real estate. For the people of India buying a house is a dream that every Indian want to achieve and this study aims at exploring the various factors that affect the buying decision of real estate of people of the Kolkata city. Buying a real estate is a daunting task as it involves considering multiple parameters, even these parameters are different for each individual.

Six major factors that influence the buyers while buying real estate which are location, price, design, public services, security, and luxury. Out of the six factors the price factor is one of the most influential factors as 96.90% of the respondents considered it as a high or very high influential factor. The buying of a house requires a commitment of huge fund and most of the people usually take a loan to finance the house. So the financial burden is huge. So price factor is one of the most influential factors.

The second most important influential factor that came up in the study was the design as 87.69% of the respondents considered the design as a high or very high influential factor. It can also be observed that there is a positive correlation between the price and the design factor which means that the respondents are ready to pay extra price for getting their satisfying design of the real estate. Since design factor is one of the determining factor it is suggested that residential estate should be maintained well.

The third most important factor that came up in the study is the luxury factors. 81.50% of the respondents considered luxury factor to be having a high or a very high influential factor. Also with respect to price the correlation is positive. So the respondents are ready to incur extra costs to get various kinds of premium facilities.

With regards to location factor, 61.50% of the respondents considered it to be having a high or very high impact factor while selecting a real estate. For 42.10% of the respondents the impact factor is low or medium. So it can be concluded that if respondents are satisfied with the price and design of the real estate then the respondents may prefer to buy it irrespective of the fact that the location may not be preferred by him.

The correlation between design with public services and security are positive and are significant at 1% level of significance which implies that respondents along with their required satisfactory design will also vouch regarding the security and will also ensure whether adequate public services is there or not.

The selection of the house mostly depends upon the economic capabilities and thus the study considered different sizes of flat i.e., 1 BHK, 2 BHK, 3 BHK, and 4 BHK. The demand of residential flats in Rajarhat area of Kolkata is also growing apart from South and North Kolkata mainly because for the service sector people. The study also reveals that maximum respondents are first time buyer of flats. So the demand of flats for first time buyer is more rather than subsequent buyer of flat.

It has been found in the study that the decision of selecting a real estate in a particular location is influenced by the age, gender, and marital status of respondents. Type of family is having a significant influence on public service and luxury factors. So depending upon nuclear family or joint family the decision will vary with regard to public and luxury factors. Since location factor is influenced by demographic variables it is suggested that residential units are to be built in a way so that they are in close proximity to school, market place, hospital, etc.

References:

- Adair, A., Berry, J., & McGreal, S. (1996). Valuation of Residential Property: Analysis of Participant Behavior. *Journal of Property Valuation & Investment*, 14(1), 20-35.
- Agarwal, S. (2003). A survey of property marketing strategies of builders and developers in Delhi (Thesis of Post Graduate Diploma in Advanced Construction Management; NICMAR), Pune
- Deb, S. (2005). *The layman's guide to buying a house*. New Delhi: Outlook Money Books.
- Gajera, D., & Malek, M. S. (2018, December). A Study of Consumer Behaviour in Real Estate for Vadodara City. *Universal review*, 7(XII), 956-969.
- Gabriel, S., & Rosenthal, S. (1989). Housing location and race: Estimates of a multinomial logit model. *The Review of Economics and Statistics*, 71(2), 240-249.
- Lonappan, J. (2013, November). An evaluation of factors influencing customer's home buying decision. *Paripex – Indian Journal of Research*, 2(11), 158-160.
- Manivannan, P., & Somasundaram, M. (2014). Purchase of residential flats – factors influencing the decisions of buyers in selected cities in Tamil Nadu. *International Journal of Business and Management*, 7(9), 67-73.
- Mittal, R., & Singh, A. R. (2014). A study on the impact of infrastructure elements on aspiring home-buyers in the National Capital Region. *Indian Journal of Marketing*, 48-59.

- Negi, S. S. (2019). *Indian Residential Real Estate Consumer Sentiment Survey* (pp. 01-28, Rep.). Mumbai, Maharashtra: Anarock Property Consultants Pvt.
- Quigely, J. M. (1976). Housing demand in the short run: An analysis of polychromous choice. *Explorate Economic Research*, 3, 76-102.
- Thangasamy, E., & Patikar, G., Dr. (2014). Factors Influencing Consumer Buying Behaviour: A Case Study. *Global Journal of Management and Business Research*, 14(5), 37-41.
- Zadkarim, S., & Emari, H. (2011). Determinants of Satisfaction in Apartment Industry: Offering a Model. *Journal of Civil Engineering and Urbanism*, 1(1), 15-24.

THE EFFECT OF TRADE PROMOTION ON PERFORMANCE OF SMALL ENTERPRISES IN NAIROBI CITY COUNTY, KENYA

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ABSTRACT

This research was done with the aim of establishing the effect of trade promotion on performance of small enterprises in Nairobi City County, Kenya. The research has in detail expressed one function of devolution that is believed to have affected the performance of small enterprises in Nairobi City County, Kenya, this has been done while citing the proponents of devolution. According to the Constitution of Kenya (2010); the fourth schedule; part two; the county governments have been allocated fourteen functions. The research study concentrated on only one function (independent variable) that has the most propensity of creating an effect on performance of small enterprises in Nairobi City County, Kenya, thus my singular research objective. This function is trade promotion. A descriptive research design was used for this study in order to describe key variables associated with trade promotion and performance of small enterprises in Nairobi City County, Kenya. A descriptive research design was used which helps describe current effects as they affect people or organizations. The researcher collected primary data using open and close ended questionnaires; this is in order to obtain optimal results from entrepreneurs in Nairobi City County. The sample size that the researcher worked with was one hundred and twenty. The researcher applied linear regression as a statistical tool for data analysis. The study revealed that trade promotion (which constitutes development of markets, improved trade licensing, issuance of subsidies as well as marketing of trade) significantly boosted the growth of small enterprises in Nairobi City County.

KEYWORDS:

Trade promotion is a blanket term for the advancement of economic policies and development interventions that directly favor business and trade. Improvement is mainly sought by developing favorable policies. As an economic policy with the ultimate goal of increasing business activities, trade promotion comprises a large set of policy instruments, most notably the provision of trade intelligence to domestic enterprises in order to reduce transaction costs and provide them with a competitive advantage. Counties should set up special agencies that advance trade promotion policies and provide support services to domestic enterprises.

Performance; given this particular context, performance denotes the growth/decline, maturity and/or the overall prosperity of a small business that is caused by devolution.

INTRODUCTION

This research was an investigation into the effect of trade promotion on performance of small enterprises in Nairobi City County, Kenya.

The specific research objective was to investigate the effect of trade promotion on performance of small enterprises in Nairobi City County.

Background of the study

An enterprise is a business organization. Enterprises play a very crucial role, both domestically and economically. Domestically they avail all the basic and necessary amenities that man needs either to survive or make life comfortable e.g. food, toothpaste, clothes, drinks, household goods, electronics, hardware items etc. Some of which are basic needs and others luxuries. An enterprise, also known as a business or a firm, is an organization involved in the trade of goods, services, or both to consumers. Businesses are prevalent in capitalist economies, where most of them are privately owned and provide goods and services to customers in exchange for other goods, services, or money. Businesses may also be not-for-profit or state-owned. A business owned by multiple individuals may be referred to as a company. An enterprise may also be involved in manufacturing and processing other than a pure trading system. Small enterprises are basically businesses that are miniature in terms of capital base, staff, operation costs, turnover, sales, liquidity, physical size and market presence. Most start-ups start as small businesses, Webster (1964).

The forms of business enterprises that are most popular in Nairobi City County may include; Sole proprietorship; a sole proprietorship, also known as a sole trader, is owned by one person and operates for their benefit. The owner may operate the business alone or with other people. A sole proprietor has unlimited liability for all obligations incurred by the business, whether from operating costs or judgments against the business. All assets of the business belong to a sole proprietor, including, for example, computer infrastructure, any inventory, manufacturing equipment and/or retail fixtures, as well as any real property owned by the business, Sheffrin (2003).

Partnership; a partnership is a business owned by two or more people. In most forms of partnerships, each partner has unlimited liability for the debts incurred by the business. The three most prevalent types of for-profit partnerships are general partnerships, limited partnerships, and limited liability partnerships (Sheffrin, 2003).

Corporation; the owners of a corporation have limited liability and the business has a separate legal personality from its owners. Corporations can be either government-owned or privately owned. They can organize either for profit or as not-for-profit organizations. A privately owned, for-profit corporation is owned by its shareholders, who elect a board of directors to direct the corporation and hire its managerial staff. A privately owned, for-profit corporation can be either privately held by a small group of individuals, or publicly held, with publicly traded shares listed on a stock exchange (Sheffrin, 2003). Cooperative; often referred to as a "co-op", a cooperative is a limited liability business that can organize for-profit or not-for-profit. A cooperative differs from a corporation in that it has members, not shareholders, and they share decision-making authority. Cooperatives are typically classified as either consumer cooperatives or

worker cooperatives. Cooperatives are fundamental to the ideology of economic democracy (Sheffrin, 2003). Examples of business classifications may include; agri-business, mining, financial services, manufacturing, processing, retailers and distributors, service businesses, transportation and utilities (public services).

A county is a geographical region of a country used for administrative or other purposes in certain modern nations. Devolution is the statutory granting of powers from the central government of a sovereign state to government at a sub national level, such as a regional, local, or state level. It is a form of decentralization. Devolved territories have the power to make legislation relevant to the area. Devolution differs from federalism in that the devolved powers of the sub national authority may be temporary and ultimately reside in central government, thus the state remains, *de jure* unitary. The Constitution of Kenya 2010 provides for devolution of political and administrative authority to 47 semi-autonomous Counties. These Counties are what were known as administrative District boundaries up to 1992 under the former Constitution, National Council for Law Reporting (2012).

The starting point of this study is to suppose that from an economic efficiency point of view, separation of nations is never desirable. A unified nation is always more efficient since free trade among regions is guaranteed, there is no duplication of costs in defense and law enforcement, and public amenities can be coordinated, Bolton and Roland (1997). A good example of devolution is in Mexico. In the 1980s, the citizens of the Federal District of Mexico, being the most populated federal entity in Mexico, began to demand for home rule; a devolution of autonomy in order to directly elect their head of government and to set up a Legislative Assembly. In 1987, an Assembly of Representatives was created, by constitutional decree, whose members were elected by popular vote. The devolution of the executive power was not granted until 1997 when the first head government was elected by popular vote. Finally, in 2000, power was devolved to the delegations, though limited: residents can now elect their own "heads of borough government". This spurred economic growth and fostered the emergence of new businesses thereby creating employment. Promotion of trade was rife and the devolved units were developed (Victor 2010).

Another example of devolution is France. In the late 1980s a process of decentralization (this is the process of redistributing or dispersing functions, powers, people or things away from a central location, central authority or a central government). This was undertaken by the French government. Initially regions were created and elected regional assemblies set up. Together with the departmental councils these bodies have responsibility for infrastructure spending and maintenance (schools and highways) and certain social spending. They collect revenues through property taxes and various other taxes. In addition, a large part of spending is provided by direct grants to such authorities. This decentralization promoted trade and economic prosperity more so in the private sector where most businesses are (Victor 2010).

Another example, still in Europe is Spain. The Spanish Constitution of 1978 granted autonomy to the nationalities and regions of which the Kingdom of Spain is composed. Under the "system of autonomies", Spain has been quoted to be "remarkable for the extent of the powers peacefully devolved over the past 30 years" and "an extraordinarily decentralized country", with the central government accounting for just 18% of public spending; the regional governments 38%, the local councils 13% and the social-security system the rest. This led to better access of technology thus increased economic activity more so for

business owners. Small businesses in the devolved units of government have ripped the full benefits of devolution thus economic opulence in the said sector (Victor 2010).

Statement of the problem

Since time in memorial many enterprises have come up in Kenya, both in large and small scale. Some of them have grown from small enterprises to large enterprises while others entered the scene and still have not grown or are stagnant. Up until today, many businesses have come up, and in the same way, a few have collapsed. Some of the reasons that have contributed to the collapse of some of these businesses may include; mismanagement, lack of investors, poor management, lack of vision, economic instability and lack of popularity. The purpose of the study was to ascertain the effect of trade promotion on performance of small enterprises in Nairobi City County, Kenya.

There is no known research in Kenya on trade promotion and performance of small enterprises; this could be because it is new to Kenya since it is barely two years old. This led me to a theoretical worldwide researching endeavor on devolution and the performance of small enterprises. There are three empirical studies on the topic of devolution in other countries; the impact of devolution on the regulatory regime of the Inuvialuit settlement region by Higham (2012), Scotland's representation in Europe in the post-devolution era: results and expectations by Dmitrieva (2008) and exploring evidence of economic convergence in post-devolution in Wales by Godfrey (2012). The studies mentioned above all sort to ascertain the effect of devolution on social, political and economic systems; but none of them studied the effect of devolution on the performance of small enterprises in developing countries.

LITERATURE REVIEW

Theoretical orientation

This study believes that county governments should be more proactive in providing a favorable business environment for small enterprises. These proactive actions are meant to largely promote trade; thereby creating business opportunities which in turn translates to growth and prosperity. The reality in the devolved counties is that in the 21st century, there is no escaping universal trends and forces such as globalization, technology and the detonation in information. These factors are here with us to stay and cannot be wished away and the only way to cope with them is to relate with them closely and adopt them as they come, the idea here is to use the ready access to information to improve technology, foster development and promote trade. Political factors may also affect performance of small enterprises in Nairobi City County, for instance when Kenya was experiencing what would be called political unrest people remained indoors and very little economic activities were taking place. At this time trade went down by over 50%. This goes to show that politics plays a big role in the growth and performance of small enterprises. But since Kenya has greatly been experiencing peace in the political circles, this has greatly accounted for increased performance of enterprises in Kenya as a whole.

Subsidiarity theory

Subsidiarity is a devolution policy principle that states; responsibilities for regulation and allocation of public goods and services should be devolved "to the maximum extent possible consistent with the

national interest”, or, as often said, to the ‘lowest’ spatial level of government appropriate for their exercise, so that “government is accessible and accountable to those affected by its decisions” (Galligan 1995). This principle was the cornerstone of the Australian collaborative intergovernmental reform in the 1980s - 1990s, and remains a principle for which federal systems are generally seen as uniquely adapted (Grewal 1981, Wilkins 1995, Watts 1996, Oates 1999). Nevertheless, subsidiarity has been identified as difficult to operationalize institutionally (Bermann 1994).

Glocalisation theory

‘Glocalisation’ describes the recent redistribution of economic influence from national spheres of government in two directions; into transnational spheres as described by globalization, but also back to more local and regional levels (Courchene 1995, British Council 1998). In North America and Europe, resurgences in regional economic and political identity have been described as “a form of defense, on the part of those with the greatest stake” against the new hyper mobility of capital (Markusen 1987, Andersson 1997). Party political instability such as experienced in Australia in the period of One Nation, and the ongoing political reassertiveness of non-metropolitan regional communities present a “double pressure” on existing governments, from both above and below, as also documented internationally (Dahrendorf 2000, Keating 1998). Australia has been seeking a post-globalisation regional development formula consistent with ‘glocalisation’ trends since the Kelty Report (1993). However, attempts to import the ‘new’ economic regionalism described in trans-Atlantic countries are confronting a similar range of uncertainties to those compounding subsidiarity discussion, including comparative lack of institutional support for regional economic activity despite occasional appearances of “a greater devolution of power” to the regional level (Roberts 1996, Gerritsen 2000).

Place/space management theory

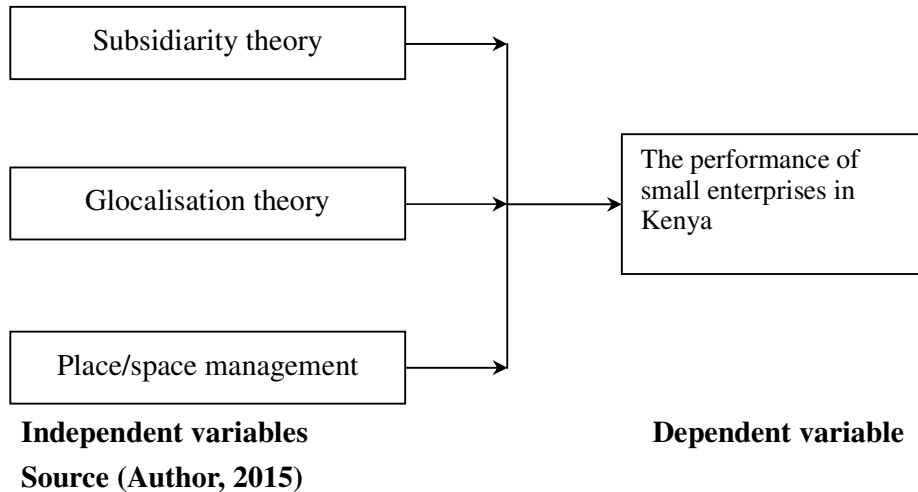
Since the late 1990s governments have attempted to compensate for the lack of regional level governance capacity through programs of community engagement aimed at active amelioration of regional social concerns. These new approaches have grown out of the ‘reinvented’ roles of industrialized governments as actors in their own political and economic systems (Davis & Keating 2000). As well as emphasizing the delegation of authority for planning and regulatory activity, place management approaches emphasize improved coordination between levels of government, and enhanced public participation (e.g. European Commission 2001). Governments are now consistently attempting to break down institutional ‘silos’ through better project-based whole-of-government coordination aimed at more “tailored responses to regional and local needs” (e.g. Vincent 1999); and place-based policy responses based on intensive, integrated intervention in areas of significant social and economic disadvantage (2001). Again, however, public institutional frameworks have not yet been configured in a way that maximizes the ability of communities to help themselves. Even when governments now openly recognize the importance of social capital to regional sustainability, uncoordinated policies may easily continue to erode that capital. Specific programs need to be created that are responsive to community needs, and that overcome the otherwise apparent tensions which arise from attempts by three existing levels of government to support change at the regional level. The partial approach (to sustainable regional development) that we have at present is

one in which community participation is prominent in discussion, while the structural conditions that are so necessary to promote and support change are lacking (Cavaye 2002).

The theoretical framework

The purpose of the study was to investigate the effect of trade promotion on performance of small enterprises in Nairobi City County, Kenya.

Theoretical framework



Empirical review

Trade promotion

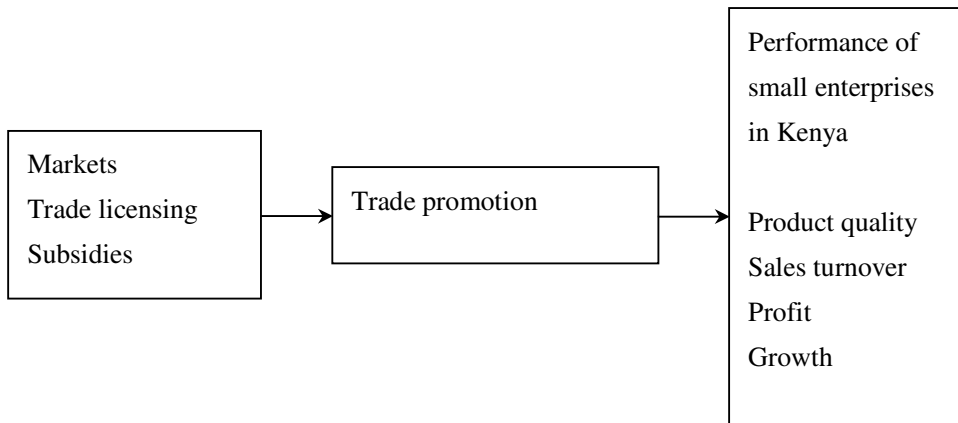
Promotion is communicating information between sellers and potential buyers and others in the channel to influence attitudes and behaviors. This is an activity that supports or provides active encouragement for the furtherance of a cause, venture, or aim. In this context trade and business activities (agri-business, mining, financial services, manufacturing, processing, retailing and distributing, service businesses, transportation, credit facilities, business amenities) are progressively encouraged and rewarded. Trade promotion is an umbrella term for the advancement of economic policies and development interventions that directly favor business and trade. Improvement is mainly sought by developing favorable policies. As an economic policy with the ultimate goal of increasing business activities, trade promotion comprises a large set of policy instruments, most notably the provision of trade intelligence to domestic enterprises in order to reduce transaction costs and provide them with a competitive advantage. Counties should set up special agencies that advance trade promotion policies and provide support services to domestic enterprises.

Devolution is realized when the national government devolves functions to the county governments which are then implemented; this will have a positive change on performance of small enterprises in Nairobi City County. On trade promotion the constitution presents county government function number seven which entails; trade development, trade regulation, markets development, trade licensing, boosting tourism and enforcing fair trading practices, if the said functional elements are implemented entirely; this will definitely have a positive effect on performance of small enterprises in Nairobi City County (Constitution of Kenya, 2010).

Operational framework

The purpose of the study was to investigate the effect of trade promotion on performance of small enterprises in Nairobi City County, Kenya.

Operational framework



Independent variable

Source (Author, 2015)

Dependent variable

METHODOLOGY

This refers to the structure, scheme, plan or outline that the researcher used to collect information from the respondents. A descriptive research design was used for this study in order to describe key variables associated with the issue at hand. The researcher collected data from a population so as to determine the effect of trade promotion on performance of small enterprises in Nairobi City County.

The targeted population is fundamentally small enterprises in Nairobi City County. The research study comprehensively investigated the effect of trade promotion on performance of small enterprises in Nairobi City County, Kenya. The target population was fifty thousand small enterprises located in Nairobi City County. There are seventeen sub counties located in the said county. In this study, entrepreneurs of both genders and all ages were targeted. Entrepreneurs of goods based, service intensive and hybrid (goods and services) enterprises were targeted. The researcher intends to work with formal enterprises.

Population frame

Population Category	Population size	Percentage
Goods based enterprises	4000	8
Service intensive enterprises	9500	19
Hybrid (goods and services) enterprises	36500	73
Total	50000	100

(Source Author 2015)

The scope of the study focused on devolution and small enterprises. The research study comprehensively investigated the effect of trade promotion on performance of small enterprises in Nairobi City County,

Kenya. The researcher worked closely with small businesses located in the 17 sub counties located in Nairobi City County.

This is the process by which a relatively small number of individuals or objects or events are selected and analyzed, in order to find out something about the population from which they were selected. Out of many sampling methods, stratified random sampling will be used because the population was divided into a more relevant strata and random sampling was going to be drawn from the strata. The formula (sample size calculation by Creative Research Systems, 1982) applied to get a sample from the fifty thousand enterprises has a confidence level of 95%, a confidence interval of 9 and with a target population of 50,000; this gives the researcher a value of 118. Thus $118 + 2$ (margin of error) = 120.

Sampling frame

Population Category	Sample size	Percentage
Goods based enterprises (Offers goods to the market)	10	8
Service intensive enterprises (Offers services to the market)	23	19
Hybrid (goods and services) enterprises (Offers goods and services to the market)	87	73
Total	120	100

(Source: Author 2015)

RESULTS AND DISCUSSION

Results

This chapter presents analysis and findings of the study as set out in the research methodology. The results are presented on the effect of trade promotion on performance of small enterprises in Kenya. The primary data was gathered exclusively from a questionnaire as a research instrument. The questionnaire was designed in line with the objectives of the study. To enhance quality of data obtained, Likert type questions were included whereby respondents indicated the extent to which the variables were practiced in a five point Likert scale.

Descriptive Statistics

Descriptive statistics on the variable of trade promotion.

The 'X₃' variable is an independent variable; this is the variable of trade promotion.

Descriptive statistics on the variable of trade promotion

	Trade Promotion (X ₃)				
	N	Minimum	Maximum	Mean	Std. Deviation
Extend to which Markets have contributed to performance of small enterprises in Nairobi City County (NCC)	103	2.00	5.00	4.4369	.83631
Extend to which Trade licensing has contributed to performance of small enterprises in NCC	101	2.00	5.00	4.2376	.82642
Extend to which Subsidies have contributed to performance of small enterprises in NCC	102	1.00	5.00	4.0588	1.06076
Extend to which Marketing has contributed to performance of small enterprises in NCC	102	1.00	5.00	4.1471	.96879
Valid N (listwise)	98				

This table shows the descriptive statistics on the 'X₃' variable; this is the variable of trade promotion. The idea here was to ascertain the extent to which the said parameters contributed to performance of small enterprises in Nairobi City County. According to the study findings, all the respondents agreed with all the items asked for trade promotion. Mean >3.4.

Discussion

The study found that trade promotion programs had resulted to improved performance of small enterprises. The study revealed that trade promotion programs were rated moderately high by the respondents in Nairobi City County. Majority of the respondents indicated that trade promotion programs in marketing, trade licensing, and provision of subsidies improved performance of small enterprises in the county.

The study revealed that subsidies, markets, trade licensing and marketing promotion contributed to performance of small enterprises to a very great extent. The study revealed that the trade promotion programs contribute to increase in the performance of small enterprises as it leads to increase in sales turnover, increase in profitability and growth. The study revealed that there existed a significant positive relationship between trade promotion programs, subsidies, markets, trade licensing and marketing promotion and performance of small enterprises.

The study revealed that the devolution of trade promotion programs, development programs, and technological programs have significantly influenced the performance of small enterprises; this is in terms of profit, product quality, sales turnover and growth were used as a measure of performance to a very great extent.

The study concluded that devolution of trade promotion programs had resulted in improved performance

of small enterprises. The study found that devolved subsidies, markets, trade licensing and marketing promotion contributed to performance of small enterprises to a very great extent leading to an increase in sales turnover, increase in profitability and growth. The study concluded that there existed a significant positive relationship between devolution of trade promotion programs, subsidies, markets, trade licensing and marketing promotion and performance of small enterprises.

The study recommends that efforts should be made to enhance the devolution of trade promotion programs by improving the offering of subsidies, increase the market opportunities, increase efficiency in trade licensing and promoting marketing; this will in turn improve sales turnover, increase profitability and growth of small enterprises in Nairobi City County.

REFERENCES

- Mishkin F. & Eakins S.G. (2003): Financial Markets and Institutions, fourth edition. New York City: Pearson Education International.
- O'Brien J.A. (2002): Management Information Systems (Managing IT in the E-Business enterprise), fifth edition. New York City: Mc-Graw hill.
- Pandey I.M. (2002): Financial Management, eighth edition. New Delhi, India: Vikas Publishing House (PVT) Ltd.
- Gowthroe C. (2005): Business Accounting and Finance for non-specialists, second edition. Bedford, London: Thompson learning publishers
- Kotler P. & Armstrong G. (2001): Principles of Marketing, ninth edition. New Jersey, USA: Prentice hall Inc.
- Lipsey R.G. & Chrystal K.A. (1999): Principles of Economics, ninth edition. New York City: Oxford University press.
- Laudon K.L. & Laudon J.P. (2004): Management Information Systems (Managing the digital firms), eighth edition. New Jersey, USA: Pearson Education.
- Bolton P., Roland G. & Spolaore E. (1996): 'Economic theories of the break-up and integration of nations', *European Economic Review*, 40: 697-706.
- Boone L. & Girouard N. (2002): 'The Stock Market, The Housing Market and Consumer Behaviour', *Economic Studies*, 35/2, OECD.
- Boumans M. & Davis J. B. (2010): *Economic Methodology: Understanding Economics as a Science*, Basingstoke: Palgrave Macmillan.
- Bowers P. & Webb D. (2012): 'Devolution in Wales: the Silk Commission', Standard Note: SN/PC/06108, Parliament and Constitution Centre, and Economic Policy and Statistics Section, London: House of Commons Library.
- Brand Henk J. E. M. (2003): 'A Regional Core, Adjacent, Periphery Model for National Economic Geography Analysis', Working Papers 2004 1, Department of Economics, University of Glasgow.
- Breitung J. (2000): 'The Local Power of Some Unit Root Tests for Panel Data', in: B. Baltagi (Ed.), *Nonstationary Panels, Panel Cointegration*.

- Dow S. C. (2002): *Economic methodology: an inquiry*, Oxford: Oxford University Press.
- Dow S. C. & Montagnoli A. (2007): 'The Regional Transmission of UK Monetary Policy', *Regional Studies*, 41(6): 797-808.
- Dowrick S. & Nguyen D. (1989): 'OECD Comparative Economic Growth: Catch Up and Convergence', *American Economic Review*, 79(5): 1010-1030.
- Le Gallo J., Ertur C. & Baumont C. (2003): 'A spatial econometric analysis of convergence across European regions, 1980-1995'. In *European Regional Growth*, Fingleton, B. (Ed.) Berlin: Springer-Verlag.
- Lessmann C. (2006): 'Fiscal Decentralization and Regional Disparity: A Panel Data Approach Evidence for OECD Countries', *IFO Working Paper No. 25*, University of Munich: Institute for Economic Research.
- Lessmann C. (2009): 'Fiscal Decentralization and Regional Disparity: Evidence from Cross-Section and Panel Data', *Environment and Planning A*, 41: 2455-2473.
- Leunig T. & Swaffield J. (2008): *Cities Unlimited. Making Urban Regeneration Work*, London: Policy Exchange.
- Levin A., Lin Chien-Fu & Chu Chia-Shang J. (2002): 'Unit Root Tests in Panel Data: Asymptotic and Finite Sample Properties', *Journal of Econometrics*, 108: 1-24.
- Lin J. Y. & Liu Z. (2000): 'Fiscal Decentralization and Economic Growth in China', *Economic Development and Cultural Change*, 49 (1): 1-21.
- Lim U. (2003): 'A Spatial Analysis of Regional Income Convergence', *Planning Forum*.
- Lindert P. H. & Williamson J. G. (2003): 'Does Globalization Make the World More Unequal?' in Bordo, M. D. Taylor, A. M., and Williamson, J. G. (Eds.)

MACRO VARIABLES AND BANK PECULIAR VARIABLE ON PROFITABILITY: EMPIRICAL STUDY OF ISLAMIC BANKING IN INDONESIA

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Abstract

The purpose of this study is to analyze the impact of internal and external factors that affect profitability. Internal factors are excluded, NPF, FDR, and BOPO, while external factors include macro variables such as Gross Domestic Product, Inflation, Exchange Rate, and BI rate. Return on assets (ROA) and return on equity (ROE) are used to measure profitability. Data were collected for seven (7) variables from 14 sharia commercial banks in Indonesia, which contained five (5) state-owned Islamic banks and nine (9) private Islamic banks. This study uses secondary data from 2015 to 2018, taken from the annual report of the Indonesian bank, sharia banking statistics belonging to the Financial Services Authority (OJK), and the Central Statistics Agency (BPS) of the Republic of Indonesia. Data analysis using SPSS software to determine the results of descriptive analysis, classic assumption test, model feasibility test, and linear regression analysis. The results showed that BOPO had a significant positive effect on profitability in the second model (ROA & ROE). NPF has a significant negative effect on ROA, and FDR has a significant positive effect on ROE.

Keywords: Islamic Banks, Macro Variables, Internal Factors, Profitability

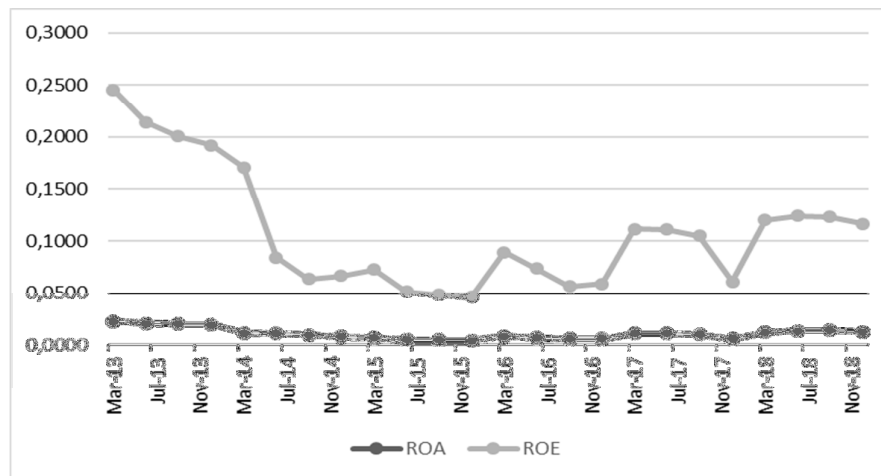
1.0 Introduction

The establishment of a banking system based on Islamic law is expected to support the development of

the country's economy because the aim of the adoption of the Islamic economic system into the national banking industry is to improve the overall performance of the banking industry. (Antonio, 2001) An approach that is more directed towards a balance between material and spiritual measures is expected to impact its translated performance with a better profitability ratio.

Based on the data we took from the Financial Services Authority of the Republic of Indonesia, it appears that the profitability conditions of Islamic banks in Indonesia are still not in line with expectations, especially when compared to conventional banking. The average Return on Assets (ROA) commonly used as an indicator of the probability of Islamic banks at the end of 2018 is still at 1.26% below conventional banks at 1.65%. (Indonesian Banking Statistics, 2019) This phenomenon also supported by research conducted by Trad, Trabelsi, & Goux (2017), where the results obtained in this study lead to the conclusion that the Islamic financial system cannot be a substitute for conventional systems, but rather a financial supplement for conventional systems. (Trad et al., 2017, p. 44)

Figure 1.1: Development of Sharia Commercial Bank Profitability in Indonesia



Source: Sharia Banking Statistics (December 2019)

In maintaining and increasing bank profitability, of course, several factors influence it, both inhibiting and supporting factors. According to Malik et al. (2015), there are two determinants of bank profitability, namely, internal and external factors. Determinants of internal factors consist of several variables, such as fundraising, capital management, liquidity management, cost management, and others. External factors that are widely used are competition, regulation, inflation, market share, the amount of money in circulation, reference interest rates, ownership, scarcity of capital, and bank size. (Malik, 2015, p. 15)

External factors are usually explained using the aggregate economic conditions approach, namely the macroeconomy. Macroeconomics is the study of the behavior of economic agents as a whole or the relationship of aggregative economic variables, such as national income, household expenditure, national investment, money supply, unemployment rate, interest rate, inflation, rupiah exchange rate and other aggregative variables (Sukirno, 2015a)

Profitability can be said as one of the most appropriate indicators to measure the performance of a company. The higher the profitability, the better the company's financial performance. Bank Indonesia

said that there are three ratios used as parameters of bank profitability, namely, return on assets (ROA), return on equity (ROE), and net interest margin (NIM). However, the most powerful and commonly used as a proxy of probability is ROA and ROE. ROA indicates how much profit can be obtained on average against each asset value, while ROE is the ratio between the amount of profit before tax compared with its capital. (Sukamulja, 2019) Thus to measure the profitability of a bank in this study using the variable indicator return on assets (ROA) and return on equity (ROE). The higher the value of ROA and ROE, the company performance is considered better and vice versa. (Dendawijaya, 2009)

One external factor that affects profitability is inflation. In general, inflation means an increase in the general price of goods/commodities and services over a specified period. (Mankiw, 2007) According to modern economists, inflation is a total increase in the amount of money that must be paid (monetary calculation unit value) of goods/commodities/services. Islamic economists state that inflation is terrible for the economy. (Karim, 2017) In a study conducted by Hidayati (2014) using the consumer price index (CPI) indicator as a proxy for inflation, the results show that there is a relationship significant positive between Inflation and ROA (Hidayati, 2014) Whereas in research conducted by Malik et al. (2015) there was no effect of inflation on bank profitability (Malik, 2015)

Gross Domestic Product (GDP) is the value of goods and services in a country produced by factors of production owned by these citizens and foreigners (Boediono, 2001) Gross Domestic Product (GDP) is the market value of final goods and services produced in the economy for a specified period. GDP is often regarded as the best measure of economic performance. (Sukirno, 2015) Research on the effect of GDP on banking profitability was conducted by Malik et al. (2015), where the results show that GDP does not affect profitability. (Malik, 2015) While other studies conducted by Sahara (2013) obtained the results that GDP has a significant positive effect on profitability.

The influence of the exchange rate on bank profitability identifies if the exchange rate experiences an appreciation or depreciation; it will impact the banking profitability movement. An exchange rate (exchange rate) or more popularly known as a currency exchange rate is a note (quotation) of the market price of a foreign currency in the price of the domestic currency or its reciprocity, the price of the domestic currency in the currency foreign. The results of research conducted by Hidayati (2014) show that the exchange rate variable has a positive and significant effect on the profitability of Islamic banks. (Hidayati, 2014) Whereas in research conducted by Ali (2011) on Islamic banks in Pakistan, different results are obtained, where no influence is found between the exchange rate variable and the profitability variable proxied by ROA and ROE.

A BI rate is a policy interest rate that reflects the stance or stance of monetary policy determined by Bank Indonesia and announced to the public. The BI rate is announced by the Board of Governors of Bank Indonesia at each monthly Board of Governors' Meeting and implemented in monetary operations conducted by Bank Indonesia through liquidity management on the money market to achieve the operational objectives of monetary policy. In a study conducted by Shah (2018), the interest rate (BI rate) did not significantly affect the profitability of Islamic banks in Indonesia. (Shah, 2018) An increase in the BI rate did not directly affect Islamic banks because in conducting their business, Islamic banks did not refer to the interest rate but rather a profit-sharing system. In another study conducted by Ali et. Al (2011) obtained results that contradicted Shah's research (2018), where the conclusion in the study that factors

that have a significant influence on the profitability of Islamic banks in Pakistan include interest rates.

NPF (Non-Performing Financing) is a ratio used to measure the risk of loans disbursed by comparing bad loans with the number of loans channeled. The higher the NPF, the smaller the profit changes. This is because the income received by banks will decrease, and the costs for provisioning to write off receivables will increase, which results in profit decreases or losses increase. (Syah, 2018) In line with research conducted by Malik et al. (2015) where a significant adverse effect was obtained between NPF and profitability (Malik, 2015, p. 15) But the results of research conducted by Wibowo & Syaichu (2013) obtained different conclusions, where NPF did not have a significant effect on bank profitability Syariah (Wibowo & Syaichu, 2015, p. 9)

Financing to Deposit Ratio (FDR) reflects the ability of banks to channel funds to parties who need financing facilities. The higher the banking assets, the higher the ability to provide loans so that the higher the FDR, which results in higher banking income. (Kasmir, 2012) However, the higher the FDR ratio can lead to the lower level of profitability of the bank if it has passed the maximum limit of the provisions which is regulated by Bank Indonesia (Ubaidillah, 2016) In the Layaman & Qonita (2015) study, it was concluded that there was no significant relationship between FDR and profitability. Whereas in another study conducted by Duraj and Moci (2017) regarding factors affecting bank profitability in Albania, it was found that there was a positive and significant impact between FDR and bank profitability.

BOPO shows the efficiency of banks in carrying out their main business, namely the comparison between total costs and total revenue generated. The higher the BOPO ratio, the smaller the efficiency of the bank. The higher the cost, the more inefficient the bank so that changes in operating profit are smaller. (Kasmir, 2012, p. 127) Total operational costs consist of the cost of interest on time deposits, and loans received labor, maintenance, repairs, fixed assets, inventory, accounts receivable, third party goods and services. At the same time, the amount of operating income consists of the results of interest on loans given from other banks and the results of interest on loans provided by non-bank third parties. This ratio is used to measure the level of efficiency and the ability of banks to carry out their operations. Hadrice (2015) which states that BOPO does have a significant adverse effect on profitability (ROA). (Hadriche, 2015) However, some studies are inconsistent, stating BOPO has no effect on ROA conducted by Hendrayanti (2013).

From some of the study results, some variables are not consistent and still need to be reviewed, among others, the Inflation variable in the research of Wibowo & Syaichu (2013) and Hidayati (2014). The GDP variable in the study of Malik et al. (2015) and Sahara (2013). Exchange Rate Variables in Hidayani (2014) and Ali's (2015) research. The BI rate variable in a study conducted by Malik et al. (2015). The FDR variable in Abdillah et al. (2016) and Wibowo & Syaichu (2013). NPF variables in Wardana & Widyarti (2015) and Malik et al. (2015). BOPO variable in Abdillah et al. (2016) and Wibowo & Syaichu (2013).

Based on the research gap from previous research, the next research will focus on inconsistent variables such as inflation, GDP, exchange rates, BI rate, NPF, FDR, and BOPO. At the same time, profitability will be proxied by return on assets (ROA) and return on equity (ROE).

2.0 Literature Review

Quite a lot of research has been conducted on the influence of external factors or macroeconomic conditions on the profitability of both conventional and Islamic banks. Initial research on bank profitability was conducted by Short (1979) and Bourke (1989). (Malik, 2015, p. 17) Most researchers use ROA and ROE as a measure of profitability. They determine the relationship between the dependent and independent variables with different approaches to determine the factors that influence bank profitability.

In 2011, Sadaqat, Akhter, and Ali researched by analyzing the influence of microeconomic determinants on bank profitability for 2006 to 2009 in Pakistan. They use multivariate regression analysis for the formation of two regression models (ROA and ROE). They concluded that gearing ratios, NPL ratios, and asset management significantly influence bank earnings in both models. When using ROA as a proxy in measuring bank profitability, bank size shows a significant effect and in the model using ROE it is found that the relationship is insignificant (Akhtar et al., 2011)

Amalia Nur Hidayati's research conducted in 2014 concerning the effect of inflation, BI rate, and exchange rates on the profitability of Islamic banks where profitability is proxied by ROA. The results show that inflation and the exchange rate have a positive and significant effect on profitability, while in the BI rate variable there was no significant effect between the two variables (Hidayati, 2014)

Wibowo and Syaikhul also conducted a study analyzing the influence of interest rates, inflation, CAR, BOPO, NPF on the profitability of Islamic banks in 2013. In his research, interest rates, inflation, CAR, and NPF did not significantly affect profitability (ROA). Whereas in the BOPO variable, the results obtained are significant with the direction of the negative relationship. The data used in the study are data taken from 2008 to 2011. (Wibowo & Syaichu, 2015)

Wardana and Widiyarti in 2015 conducted a study analyzing the effect of CAR, FDR, NPF, BOPO, and size on profitability at Islamic commercial banks in Indonesia. In conducting data analysis, multiple linear regression analysis methods is used where the results are obtained that CAR, BOPO, and company size have a significant negative effect on ROA. While the variables on FDR and NPF were not found to have a significant effect on ROA. (Wardana & Widiyarti, 2015, p. 9)

Other research conducted to investigate the impact of internal and external factors that affect profitability was conducted by Malik et al. in 2015. Internal causes include Company Size, CAR, Liquidity, DER, NPL, portfolio composition, and LAR, while external causes include Gross Domestic Products, Inflation, and Unemployment. ROA and is used as a measure of profitability. The data used are data from 2006-2011, from annual bank reports, Mundi index, and financial statements of the State Bank of Pakistan (SBP) analysis. Descriptive analysis, correlation analysis, and multiple linear regression analysis using Eviews. The results show that size has a significant positive effect on both models (ROA & ROE). (Malik, 2015, p. 7)

In 2016 Topak and Tolu conducted a study to explore the factors affecting Turkish commercial banks' profitability during the period from January 2006 to March 2014. Some of these are internal factors that can be controlled by management, and others are external factors, such as macroeconomic conditions and sector-specific outside management control. Two models are used with ROA and ROE as the dependent variable. The results of this study, the ratio of net costs and total commission costs, and interest from loans to deposit interest has a positive effect on ROA and ROE. The BOPO ratio and company size were found to have a negative impact on profitability. The capital adequacy ratio has a

positive impact on ROA, but its effect on ROE found no significant effect (Topak & Talu, 2016, p. 37)

Other research by Pardede and Pangestuti in 2016 was conducted to identify and analyze the determinants of ROA in banks listed on the Indonesia Stock Exchange. The results of this study prove that TPF and NIM have a positive and significant relationship to LDR. CAR has a negative but not significant relationship to LDR. CAR and LDR have a positive and significant relationship to ROA. TPF has a positive and not significant effect on ROA. NIM has a negative and significant effect on ROA. Then, TPF and NIM have a significant relationship to ROA mediated by LDR as an intervening variable. (Pardede & Pangestuti, 2016, p. 8)

Abdillah et al. conducted a study in 2016 to analyze the determinants of profitability and liquidity of Bank Muamalat Indonesia, Bank Syariah Mandiri, and Bank Mega Syariah. Profitability is proxied by ROA, and liquidity is proxied by a fast ratio. Factors of independent variables that affect profitability are the fast ratio, CAR, and BOPO. The analytical method used in this study is the multiple regression analysis. The data used are quarterly data from 2008 to 2015. The results show that the fast ratio and BOPO have a significant negative effect on profitability, and CAR has a positive and significant effect on profitability. (Abdillah et al., 2016, p. 140)

3.0 Methode

This study uses a quantitative approach because it uses the measurement of research variables with numbers and in the form of numbers and analysis using statistics. Quantitative research aims to show the relationship between variables, test theories, and generalizations that have predictive value (Juliansyah, 2015)

The population in this study are all Islamic commercial banks registered at Bank Indonesia and the Financial Services Authority, namely 14 Islamic Commercial Banks. 1. PT. Bank Aceh Syariah, 2. PT. Bank Muamalat Indonesia, 3. PT. Bank Victoria Syariah, 4. PT. Bank BRI Syariah, 5. PT. Bank Jabar Banten Syariah, 6. PT. Bank BNI Syariah, 7. PT. Bank Syariah Mandiri, 8. PT. Bank Mega Syariah, 9. PT. Bank Panin Dubai Syariah, 10. PT. Bank Syariah Bukopin, 11. PT. Bank BCA Syariah, 12. PT. Maybank Syariah Indonesia, 13. PT. BTPN Syariah, 14. BPD NTB Syariah. (Sumber : Statistik Perbankan Syariah December 2019).

3.1 Operational Definition and Variable Measurement

According to Juliansyah Noor, a variable is something that has a variety of values. (Juliansyah, 2015) The operational definition is the determination of constructs so that it becomes a variable that can be measured and explains the specific ways used by researchers in operating constructs (Ghozali, 2016, p. 97)

3.1.1. Dependent Variable

The dependent variable is identical to the dependent variable, which is explained or the dependent variable. In this study, the dependent variable is profitability measured by Return on Assets (ROA) and Return on Equity (ROE).

1. Return on asset (ROA)

The value of return on assets (ROA) can be obtained from net income after tax divided by total assets and multiplied by 100. This ratio tells us how much profit is generated from the total assets used in this business.

$$ROA = (\text{Net Profit})/(\text{Total asset}) \times 100\%$$

2. Return on Equity (ROE)

The return on equity (ROE) value is obtained from net income after tax divided by the total shareholder's equity and multiplied by 100, then it is known as return on equity. Total shareholders' equity is the total shareholder's equity plus share capital plus profit (loss).

$$ROE = (\text{Net Profit})/(\text{Total Equity}) \times 100\%$$

3.1.2. Independent Variable

The independent variable is identical to the independent, explanatory, or independent/explanatory variable. This variable is usually considered a predictor or cause variable because it predicts or causes the dependent variable. (Juliansyah, 2015) There are (7) seven independent variables that will be tested in this study with (4) four variables classified as macro variables and (3) three variables bank peculiar variables which are classified as viz:

A. Macroeconomic Variables

3. Inflation

Inflation is a tendency to increase the prices of general goods continuously. The increase in the prices of these goods is not all with the same percentage, or the increase can occur not simultaneously but occur continuously for a certain period.

4. Gross Domestic Product (GDP)

Gross Domestic Product can be interpreted as the amount of production of goods and services produced by the production unit in an area at a specific time. GDP is calculated by adding up the total consumption, investment, and government expenditure, then adding the difference between the export value and the import value.

$$GDP = C + I + G + (x-m)$$

5. Exchange Rate

Currency rates are records of market prices of foreign currencies in the domestic currency price or reciprocity, which is the price of the domestic currency in foreign currencies. In this research, the difference between the growth of the exchange rate will be used in each quarter.

6. BI Rate

The BI rate is announced by the Board of Governors of Bank Indonesia every monthly Board of Governors' Meeting and implemented in monetary operations conducted by Bank Indonesia through liquidity management on the money market to achieve the operational targets of monetary policy.

B. Bank Peculiar Variables

7. Non Performing Financing (NPF)

Non-Performing Financing (NPF) is the ratio between problematic financing and total financing channeled by Islamic banks. based on criteria set by Bank Indonesia the categories included in the NPF are substandard, doubtful and loss financing.

8. Financing to Deposit Ratio (FDR)

Financing to Deposit Ratio (FDR) reflects banks' ability to channel funds to parties who need capital.

9. Operating Expenses Ratio (OER)

The total operational costs consist of interest costs on deposits, and loans received, labor, maintenance, repairs, fixed assets, inventory, receivables, goods, and third party services. Simultaneously, the amount of operating income consists of the interest on loans given from other banks and the interest on loans from non-bank third parties.

3.2 Data Analysis and Model Development

3.2.1. *Deskriptif Statistic*

Descriptive statistics are performed to determine and obtain a description related to the data used in the study of the average value, standard deviation, and variance minimum value, maximum value, range, and soon. (Ghozali, 2016)

3.2.2. *Multiple linear regression*

The model used in this study uses multiple linear regression analysis. Regression can be said to be multiple linear if the variation of variables to be explained by variations of explanatory variables (more than one explanatory variable) (Tanjung & Devi, 2018, p. 133) As a prerequisite for multiple linear regression tests then the classic assumption test is first performed which includes the test normality, autocorrelation, and multicollinearity (Ghozali, 2016)

Two models of multiple linear regression equations using small squares with the following formula:

Model 1 :

$$ROA = \alpha + \beta_1 INF + \beta_2 GDP + \beta_3 ER + \beta_4 BIR + \beta_5 NPF + \beta_6 FDR + \beta_7 OER + e$$

Model 2 :

$$ROE = \alpha + \beta_1 INF + \beta_2 GDP + \beta_3 ER + \beta_4 BIR + \beta_5 NPF + \beta_6 FDR + \beta_7 OER + e$$

3.2.3. *Model feasibility test*

1. *F test*

This test aims to determine whether the independent variables simultaneously or jointly affect the dependent variable significantly. This test uses the F test by comparing the F count with the F table. (Ghozali, 2016)

2. *R² Test*

In this multiple regression linear test also analyzed the magnitude of the coefficient of determination (R²). R² test measures how far the model's ability to explain the variation of the dependent variable. The coefficient of determination is between zero and one. R² is used to measure the best accuracy from multiple linear regression analyses. (Ghozali, 2016)

4.0 Result

4.1 Deskriptif Analysis

Table 4.1: Analysis Results Description

Variabel	INF	GDP	ER	BI	NPF	FDR	OER	ROA	ROE
				rate					
Mean	0,2621	2,4545	13,75	5,4286	5,428	83,77	93,57	0,9049	7,90
Max	1,0	2,68	15,3	7,5	4,81	90,82	99,0	1,62	11,0

Min	-0,9	2,26	13,06	4,50	3,00	77,63	88,0	0,42	2,00
Std. Dev	0,4582	0,1302	0,52542	1,1742	0,0059	4,415	0,314	0,3323	0,024
N	42	42	42	42	42	42	42	42	42

Source: SPSS 21 data output, processed November 16, 2019

Table 4.1 above shows the mean, standard deviation, maximum and minimum values. Means of size, debt to equity, and problem loans are 18.74, 13.47, and 0.13. The standard deviations are 1.3, 30.74, and 0.11, respectively. The minimum average value of return on assets (ROA) is -0.07, and the maximum value is 0.04. A total of 42 observations were used to obtain results.

4.2 Classic Assumptions Test

Table. 4.2: Model 1 normality, autocorrelation and multicollinearity tests.

Classic Assumptions test		
Kolmogorov-Smirnov-Test	Asymp.sig. (2-tailed)	0,085
Durbin Watson		2,013
VIF	INF	1,247
	GDP	7,285
	ER	3,274
	BI rate	8,067
	NPF	3,850
	FDR	5,380
	OER	8,817

Source: SPSS 21 data output, processed November 16, 2019

The results of the standard model assumption test can first be seen in table 4.2. The normality test in the second model can be seen based on the Kolmogorov-Smirnov test output and produces an Asymp value. Sig (2-tailed) is 0.085. This value is higher than 0.05 or 5%, so it can be concluded that the data are declared normally distributed. Durbin Watson's value of 2.103 is in the area free from autocorrelation. The multicollinearity test results obtained mean VIF values are above (1) one and less than (10) ten. The result shows that the regression model is freed from multicollinearity between the independent variables.

Table. 4.3: Model 2 normality, autocorrelation and multicollinearity tests.

Classic Assumptions test		
Kolmogorov-Smirnov-Test	Asymp.sig. (2-tailed)	0,652
Durbin Watson		1,706
VIF	INF	1,247
	GDP	7,285
	ER	3,274
	BI rate	8,067

NPF	3,850
FDR	5,380
OER	8,817

Source: SPSS 21 data output, processed November 16, 2019

The results of the classic assumption test in the second model can be seen in table 4.3. The normality test in the second model can be seen based on the Kolmogorov-Smirnov test output and produces an Asymp value. Sig (2-tailed) is 0.652. This value is higher than 0.05 or 5%, so it can be concluded that the data are declared normally distributed. Durbin Watson's value of 1.706 is in the area free from autocorrelation. The results of the multicollinearity test obtained mean VIF values are above one and less than 10. The result shows that the regression model is freed from multicollinearity between the independent variables.

4.3 Regression Analysis

Model 1 :

Table 4.2 :

Variable	Inflation	GDP	ER	BI rate	NPF	FDR	OER
Coefficient	0,096	-0,091	0,186	-0,118	28,022	-0,037	-12,249
t-Statistic	1,208	-0,135	1,664	-1,499	2,631	1,681	-5,115
R-Squared	0,675						
F-Statistic	10,080						

Source: SPSS 21 data output, processed November 16, 2019

The first model shows the results of regression analysis with ROA as the dependent variable. DE, bad credit and portfolio composition have a significant negative relationship with profitability, have t-stat values, -2.04, -3.24, and -2.64. R^2 is 0.76, and F-statistic is 10.11 for the ROA model. (t-stat > 1.96). Size has a significant positive relationship with ROA which has a stat 2.16.

Model 2 :

Table 4.3 :

Variable	Inflation	GDP	ER	BI rate	NPF	FDR	OER
Coefficient	0,005	-0,100	0,002	-0,001	0,176	0,000	1,091
t-Statistic	1,965	-4,309	-0,649	0,258	-0,480	0,487	-13,259
R-Squared	0,928						
F-Statistic	10,11						

Source: SPSS 21 data output, processed November 16, 2019

The second model shows the results of regression analysis with ROE as the dependent variable. GDP and BOPO have a significant negative relationship with profitability, have t-stat values, -2.04, -3.24, and -2.64. R^2 is 0.928, and F-statistic is 10.11 for the ROE model.

5.0 Discussion

Based on the results of research that has been done regarding the influence of Inflation, Gross Domestic Product (GDP), Exchange Rate, BI rate, non-performing financing (NPF), Financing to Deposit Ratio (FDR) and OER on profitability which is proxied by ROA and ROE. Obtained the following research results.

5.1 Effect of Inflation on Profitability

First model, the calculation of the regression coefficient in this study obtained a value of 0.001, a t-test of 0.675, which is higher than the t-table essential requirement of 5%. These results indicate the variable changes do not have a significant effect on Return On Assets (ROA). In the second model, the results of the calculation of the regression coefficient in this study obtained a value of -0.001, t-count 0.675, which is higher than the significant requirement t-table of 5%. The research results show that the influencing variable does not significantly affect the return on equity (ROE). It can be used to estimate the profitability of Islamic commercial banks in Indonesia. It is discussed with research conducted by Malik et al. (2015), where no influence was found on bank profitability.

In the Islamic view, the changes that occur are primarily due to mistakes made by human beings. As stated by Muslim researcher al-Maqrizi, the primary debate was caused by corrupt practices carried out by unscrupulous officials and people in the business. (Karim, 2017). Where in verse, there is a prohibition against taking the wealth of wrongdoers for all Muslims.

5.2 Effects of Gross Domestic Product (GDP) on Profitability

In the first model, the results of the calculation of the regression coefficient in this study obtained the value of -0.091, t-count -0.135, which is higher than the significant requirements of the t-table. These results indicate that the GDP variable does not have a significant effect on return on assets (ROA). In the second model, the results of the calculation of the regression coefficient in this study obtained a value of -0.100, t -calculate -4.309, which is smaller than the significant requirement of t-table. So the results of this research indicate that the GDP variable has a significant influence on return on equity (ROE). The result is in line with research conducted by Malik et al. (2015) where no effect of GDP was found on ROA.

5.3 Effects of Exchange Rates on Profitability

In the first model, the results of the calculation of the regression coefficient in this study obtained a value of -0.118, t-count 1.664, which is smaller than the critical requirement of t-table. These results indicate that the exchange rate variable does not have a significant effect on return on assets (ROA). In the second model, the results of the calculation of the regression coefficient in this study obtained the value of -0.002, t-count -0.659, which is higher than the significant requirements of the t-table. Research results show that the exchange rate variable also does not have a significant effect on return on equity (ROE). So it can be concluded that the exchange rate does not affect the profitability of Islamic commercial banks in Indonesia either by using ROA or ROE proxy. This study's results contradict the research conducted by Hidayati (2014) where the results obtained that the exchange rate does not affect profitability.

5.4 Effect of BI rate on Profitability

In the first model, the calculation of the regression coefficient in this study obtained a value of -0.001, t-calculated -1.499, which is higher than the significant requirements of the t-table. These results indicate that the BI rate variable does not significantly affect the return on assets (ROA). In the second model, the results of the calculation of the regression coefficient in this study obtained a value of 0.001, t-test 0.258, which is smaller than the critical requirement of t-table. The research results show that the BI rate variable does not significantly affect the return on equity (ROE). So it can be concluded that the BI rate does not affect the profitability of Islamic commercial banks in Indonesia. The result is in line with Hidayati (2014) research, which found the influence of the BI rate on the profitability of Islamic banks.

5.5 Profitabilitas Effects of Non-Performing Financing (NPF) on Profitability

In the first model, the results of the calculation of the regression coefficient in this study obtained a value of 28.022, t-test 2.631, which is higher than the significant requirements of t-table. These results indicate that the variable non-performing financing (NPF) has a significant effect on Return On Assets (ROA). In the second model, the results of the calculation of the regression coefficient in this study obtained a value of 0.176, t-count -0.480, which is higher than the t-table essential requirements. Research results show that the non-performing financing variable (NPF) does not have a significant effect on return on equity (ROE). So it can be concluded that the NPF affects the profitability of Islamic commercial banks in Indonesia by using ROA as a proxy. The result is in line with research conducted by Malik et al. (2015) were found the influence of NPF on the profitability of Islamic commercial banks.

5.6 Effect of Financing Deposit Ratio (FDR) on Profitability

In the first model, the results of the calculation of the regression coefficient in this study obtained a value of -0.037, t-count 1.681, which is smaller than the critical requirement of t-table. These results indicate that the FDR variable does not have a significant effect on return on assets (ROA). In the second model, the results of the calculation of the regression coefficient in this study obtained a value of 0,000, t-count 0.487, which is smaller than the critical requirement of t-table. Research results show that the FDR variable does not have a significant effect on Return On Equity (ROE). So it can be concluded that FDR does not affect the profitability of Islamic commercial banks in Indonesia. The result is in line with research conducted by Wardana and Widyarti (2015) where no effect of inflation was found on bank profitability.

5.7 Effect of Operating Expenses Ratio (OER) on Profitability

In the first model, the results of the calculation of the regression coefficient in this study obtained a value of 12.249, t-count -5.115, which is higher than the significant requirements of the t-table. These results indicate that the OER variable has a significant effect on return on assets (ROA). In the second model, the results of the calculation of the regression coefficient in this study obtained a value of 1.091, t-test 13.259, which is smaller than the critical requirement of t-table. Research results show that the OER variable has a significant effect on return on equity (ROE). So it can be concluded that the OER has a significant effect on the profitability of Islamic commercial banks in Indonesia. The result is in line with research conducted by Wibowo and Syaichu (2015) which found a significant influence of the OER variable on bank profitability.

6.0 Conclusion.

Profitability is considered as an essential indicator to measure overall bank performance. Many causes affect profitability. Internal causes include FDR, OER, and NPF, while causes from external or macro factors include Gross Domestic Product, Inflation, Exchange Rate, and BI rate. Return on Assets (ROA) and Return on Equity (ROE) is used to measure profitability. Factors affecting profitability were analyzed and discussed with 14 Islamic commercial banks in Indonesia using multiple linear regression analysis for 2015-2018.

It can be seen that part there is one variable that has a significant effect on return on assets (ROA) and returns on equity (ROE), namely OER, NPF has a significant negative effect on ROA and GDP has a negative and significant effect on ROE. While Inflation, Exchange Rate, BI rate, and FDR do not influence return on assets (ROA) and Return on Equity (ROE). Simultaneously, all independent variables have a significant effect on return on assets (ROA) and return on equity (ROE).

Reference

- Abdillah, R., Hosen, M. N., & Muhari, S. (2016). The Determinants Factor Of Islamic Bank's Profitability And Liquidity In Indonesia. *Knowledge Horizons-Economic's*, 8(2), 140–147.
- Akhtar, M. F., Ali, K., & Sadaqat, S. (2011). Factors Influencing the Profitability of Islamic Banks of Pakistan. *International Research Journal of Finance and Economics*, 66, 8.
- Antonio, M. S. (2001). *Bank syariah: Dari teori ke praktik*. Gema Insani.
- Boediono. (2001). *Ekonomi Makro* (4th ed.). BPFE UGM.
- Dendawijaya, L. (2009). *Manajemen Perbankan*. Ghalia Wijaya.
- Duraj, B., & Moci, E. (n.d.). Factors Influencing The Bank Profitability – Empirical Evidence From Albania. *Romanian Economic and Business Review*, 10(1), 14.
- Ghozali, I. (2016). *Aplikasi Analisis Multivariate dengan Program SPSS 23* (kedelapan). Badan Penerbit Universitas Diponegoro.
- Hadriche, M. (2015). Banks Performance Determinants: Comparative Analysis between Conventional and Islamic Banks from GCC Countries. *International Journal of Economics and Finance*, 7(9), p169. <https://doi.org/10.5539/ijef.v7n9p169>
- Hidayati, A. N. (2014). Pengaruh Inflasi, BI Rate dan Kurs Terhadap Profitabilitas Bank Syariah di Indonesia. *An-Nisbah: Jurnal Ekonomi Syariah*, 1(1), 72–97. <https://doi.org/10.21274/an.2014.1.1.72-97>
- Juliansyah, N. (2015). *Analisis Data Penelitian Ekonomi & Manajemen*. Grasindo.
- Karim, A. (2017). *Ekonomi Makro Islami*. Raja Grafindo Persada.
- Kasmir. (2012). *Analisis Laporan Keuangan*. Rajawali Press.
- Malik, R. (2015). Bank Peculiar, Macroeconomic Causes and Profitability of Banks: An Evidence from Pakistan. *International Journal of Information, Business and Management*, 7, 15.
- Mankiw, G. (2007). *Makro Ekonomi* (Keenam). Erlangga.
- Pardede, D. N., & Pangestuti, I. R. D. (2016). Analisis Pengaruh CAR, Dana Pihak Ketiga (DPK), NIM dan LDR Terhadap Profitabilitas Dengan LDR Sebagai Variabel Intervening. *Diponegoro Journal of Management*, 5(3), 1–13.
- Sahara, A. Y. (2013). Analisis Pengaruh Inflasi, Suku Bunga BI, dan Produk Domestik Bruto Terhadap Return on Asset (ROA) Bank Syariah di Indonesia. *Jurnal Ilmu Manajemen*, 1(1), 149–157.
- Statistik Perbankan Indonesia*. (2019). Otoritas Jasa Keuangan.
- Sukamulja, S. (2019). *Analisis Laporan Keuangan*. Penerbit Andi.

- Sukirno, S. (2015). *Makro Ekonomi Teori Pengantar*. Rajawali Press.
- Syah, T. A. (2018). Pengaruh Inflasi, BI Rate, NPF, dan BOPO terhadap Profitabilitas Bank Umum Syariah di Indonesia. *El-Jizya : Jurnal Ekonomi Islam*, 6(1), 133–153. <https://doi.org/10.24090/ej.v6i1.2051>
- Tanjung, H., & Devi, A. (2018). *Metode Penelitian Ekonomi Islam* (2nd ed.). Gramata Publishing.
- Topak, M. S., & Talu, N. H. (2016). Internal Determinants Of Bank Profitability: Evidience From Turkish Banking Sector. *International Journal of Economic Perspectives*, 10(1), 37–49.
- Trad, N., Trabelsi, M. A., & Goux, J. F. (2017). Risk and profitability of Islamic banks: A religious deception or an alternative solution? *European Research on Management and Business Economics*, 23(1), 40–45. <https://doi.org/10.1016/j.iemeen.2016.09.001>
- Ubaidillah. (2016). Analisis Faktor-Faktor Yang Mempengaruhi Profitabilitas Bank Syariah di Indonesia. *Jurnal Ekonomi Islam*, 4(2).
- Wardana, R. I. P., & Widyarti, E. T. (2015). Analisis Pengaruh CAR, FDR, NPF, BOPO, dan Size Terhadap Profitabilitas Pada Bank Umum Syariah di Indonesia. *Diponegoro Journal of Management*, 4(4), 1–11.
- Wibowo, E. S., & Syaichu, M. (n.d.). Analis Pengaruh Suku Bunga, Inflasi, CAR, BOPO, NPF Terhadap Profitabilitas Bank Syariah. *Diponegoro Journal of Management*, 2(2), 1–10.

FOREIGN TRADE; AN ANALYSIS OF BILATERAL TRADE BETWEEN BANGLADESH AND CHINA

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ABSTRACT

Bangladesh and China are reciprocally tested friends. The unique height of bilateral trade between Bangladesh and China has increased significantly in recent years. The main purpose of this study is to find out the overall trade situation between the two countries. The researcher used panel data system as a qualitative manner to analyze possible field scenarios. The researcher found that Bangladesh has been suffering from historic trade imbalances with China since its economic relationship after 1974. This trade deficit makes Bangladesh dependent on China and raises serious concerns about the economic and financial impact. The results of the study say that increasing exports to China could lead to a decrease in trade deficits. Bangladesh should have ensured access to the Chinese market there. Export Processing Bureau of Bangladesh (EPB) and Trade Association to reward industry for the benefits of trade and infrastructure development in the export expansion effort. This step of sincere and active cooperation between the two countries is considered significant enough to reduce the trade deficit.

Keywords: Bangladesh-China, Foreign trade, Bilateral trade, Trade deficit, SAARC countries.

JEL Classification: F1, F2, F4

INTRODUCTION

Bangladesh-China is an earnest friend and development chum in order to enjoy of economic and geopolitical benefits. Both countries have historical, economic and political equations for its own interest. Bangladesh officially established relationship with China on October 04, 1975 (Moazzem, Islam and Raz, 2014). Bangladesh and China have a neighboring bond, often as "trusted friendship" or "all weather friendship" and became a policy trade partner in 2005 (Yesmin, 2018; Morrison, 2015). Agreement on Prevention of Tax Evasion signed in 1996, in January 2002 signed an agreement on Economic and Technical Corporation between two countries (Jun, 2014), an exchange of letters concerning the loan signed in December 2002 (Rahman and Uddin, 2019). Former President of

Bangladesh Zillur Rahman said On February 18, 2009 that Bangladesh cares the One-China policy and acknowledged China is a steadfast partner in its inclusive economic development. (Global Security.org; Ahmed et al, 2015). Three decades ago China has started an unparalleled economic growth after its economic reforms (1978), which became the world's second largest economy today and will become largest end of 2020 (Rashed and Ashraf Un, 2016). Most recently china announced an "Economic strategy" that is "One Belt One Road" In the late 2013 has cemented a new dimension in China-Bangladesh relations by announcing "Belt and Road Initiative." Tait (2017) said that "Bangladesh and China are two of the fastest growing economies in the world with expanding bilateral trade that will grow further as China's Belt and Road Initiative takes shape,". With the two-day visit of Chinese President Xi Jinping to Bangladesh in October, 2016, the China-Bangladesh relations have reached a new height (Kawai and Wignaraja 2010). China always maintains a good neighborhood policy and relation with South Asian countries especially with Bangladesh (Kojima 1964; World Bank, 2002; Liu & Li, 2014; Yue and Hua, 2002). China has made significant contributions to infrastructure development, trade and economy in Bangladesh. The 40th anniversary of diplomatic relationships between the two countries was celebrated in 2015 (Kabbir, 2017). China is the utmost trusted trading partner of Bangladesh. Bangladesh exports its products to China is approaching 1,000,000,000 US Dollar. It has already stretched 746 million USD in Fiscal Year 2014 from only 32.36 million US Dollars in FY 2002 ([Bangladesh Embassy, 2017](#)). Bilateral trade between Bangladesh- China is highly slanted in favor of Beijing (Economic Times, July 2020; Kumar, 21 April 2005), and over the last 20 years bilateral trade deficits of Bangladesh with china has been increased 1600%. (*Church, 2016*). In 2018-19 Bangladesh's export to china was only USD 0.56 billion whereas China's export to Bangladesh was USD13.6 million. It is observed that 25% of Bangladesh total imports are from China (Kumar, 1998). Import Payments of Goods: The total merchandise Import Payments of Bangladesh (including imports of EPZ) during the years 2018-2019 and 2017-18 amounted to Taka 471077.5 crore (or USD 56060.8 million) and Taka 435041.5 crore (or USD 52939.6 million) respectively, reflecting a 21.6% increase in dollar terms. Import Payments of Services: The total Import Payments of Services during the years 2018-19 and 2017-18 amounted to taka 57344.8 crore (or US\$ 6823.2 Million) and taka 50017.6 crore (or USD 6086.6 Million) respectively, reflecting a 12.1 % increase in dollar terms. (BBS, 2020). In the Fiscal Year 2018-2019 Bangladesh earned 77348 Million Taka from export and Bangladesh payments 1181249 million Taka for import from China (BBS, 2020). Both countries signed trade agreements at different times. Analysis of current trade with China shows that historical trade deficits. Economic cooperation is still a concern; China is a trusted and major trading partner of Bangladesh, America and India are in the second and third position respectively. Bangladesh is an economically growing tiger in Asian countries. According to Economic Complexity Index (ECI) "Bangladesh is the 54th largest export economy and the 123rd most complex economy in the world" (OEC, 2020). Recently Bangladesh achieved tremendous economic development (Embassy of China, 14 May 2010). China is the cherished mate of this economic growth of Bangladesh. Two different economic countries but have some common interest. China is the second world largest economy trying to establish relationship with south Asian countries as for strategic and competitive benefits.

Bangladesh business runs behind China. There have been trade deficits since the beginning of economic relations with China. This imbalance has made Bangladesh depend on China with great importance. This presentation examines the trends in bilateral trade and economic relations between Bangladesh and China. This research also inspects the confines of trade and especially economic cooperation.

METHODS

The present study has been used panel data research methodology for analyzing export-import pictures including bilateral trade between Bangladesh and China. Simple statistical analyze have been carried out of bilateral trade with top 10 countries to understand the state of export-import and trade balance during FY 2010 to 2019. The researchers also collected data from Directory of BBS, EPB, CPD, Bangladesh Bank and other institutions. The author have reviewed Bangladesh Economic Review, EPZ Directory, International publications, Government documents etc. The researcher has studied the articles in the international journals to conceptualize current scene of Bangladesh –China bilateral business and articulated the attributes in this paper. The researcher have pedantically reviewed secondary data and information for this study

AT A GLANCE OF DOCUMENTARY REVIEW OF FOREIGN TRADE SCENARIOS OF BANGLADSH

Bangladesh's exports increased from BDT 26 264.38 billion in January to BDT 250.74 billion in December 2019. Bangladesh's imports increased from BDT 400.05 billion in January to BDT 394.52 billion in December 2019. Bangladesh documented a trade deficit of BDT 135.70 Billion in January of 2020. (Trading Economics, 2020). Bangladesh shipped an estimated 42.2 billion of US Dollar worth of goods round the world in 2018. Bangladesh as a south Asian nation situated neighboring economic powerhouses India and China. The dollar amount of the 33% increase in 2015, and from 2017 to 2018 reflecting 5.3% (October 21, 2019 by Daniel Workman). Export partners of Bangladesh; Germany 12.9%, US 12.2%, UK 8.7%, Spain 5.3%, France 5.1%, Italy 4.1% (2017) while Import partners; China 21.9%, India 15.3%, Singapore 5.7% (2017) (CIA, 2020). Documents of others Fiscal year also indicated the drastically trade deficits of international business. Table-1 shows us the export-import scenarios of FY 2014-15, 2015-16 and 2016-17 respectively.

Table: 1 Foreign Trade scenarios at a glance

Particulars	2014-15 (Tk in crore)	2015-16 (Tk in crore)	2016-17 (Tk in crore)
Exports	148888	236802	471250
Imports	210066	313879	300384
Balance	(-)61178	(-)77077	(-) 170866

Source: Economic Trends, Bangladesh Bank, Completed by National Accounting Wing, BBS

Table-1 indicates that In FY2014-15 total exports income was BDT148888 crore and total import payment was BDT 21006 crore, and trade deficits was BDT 61178 crore. In FY 2015-16 and 2016-17

export earning was BDT 236802 crore and BDT 471250 crore, and import expense was BDT 313879 crore and BDT 300384 crore. This two FY indicates huge amount of trade imbalance that was BDT 77077 crore and BDT 170866 crore respectively.

Table 2 shows the indicators of foreign trade sector which are FY 2013-14, 2014-15, 2015-16 and 2016-17. Here mentions the overall export-import figure of Bangladesh in the above financial years.

Table: 2 Indicators of the Foreign Trade Sector ((Tk in crore)

Particulars	Fiscal Year			
	2013-14	2014-15	2015-16	2016-17
Total imports (CIF)	2822310	3670702	3869349	4712495
Per capita Import (Tk.)	16078	23247	24200	29134
% of GDP	18.64	24.22	22.33	-
Total export (FOB)	2122602	2408850	2634668	3003837
Per capita exports (Tk.)	11154	15256	16478	18571
% of GDP	12.93	15.89	15.20	-
Balance of trade	(-)2610050	(-)1261852	(-)1234681	(-) 1708658

Source: National Accounting Wing, BBS

Table-2 shows that import (CIF) and total export (FOB) was BDT 2822310, 3670702, 3869349, 4712495 crore and BDT 2122602, 2408850, 2634668, 3003837 crore respectively which caused the serious trade deficits. In 2016 total trade deficits stands BDT 1708658 which is the less than the FY 2013-14.

Table: 3 Export to Top Ten Countries

Countries where BD exports	2014-2015		2015-2016		2016-2017	
	Value (million tk)	% of total	Value (million tk)	% of total	Value (million tk)	% of total
USA	448323	18.61	483322	18.34	505413	16.83
Germany	365328	15.17	388967	14.76	475848	15.84
UK	248930	10.33	296450	11.25	308430	10.27
France	135275	5.62	144033	5.47	164781	5.49
Netherlands	65101	2.70	65344	2.48	92899	3.09
Canada	79744	3.31	86490	3.28	601141	20.01
Italy	107279	4.45	107875	4.09	130299	4.34
Spain	136029	5.65	156040	5.92	176136	5.86
Belgium	75685	3.14	78414	2.98	80107	2.67
Turkey	55979	2.32	5058	0.19	52966	1.76
Other countries	691177	28.69	822725	31.23	415817	13.84
Total exports	2408850	100	2634668	100	3003837	100

Source: National Accounting Wing, BBS

From the table-3 we can demonstrates that total merchandise exports value of Bangladesh from FY

2014-15 to 2016-17. BDT 2408850 million was the export value In the FY 2014-15, but in the FY 2016-17 increased 7.3% of export value that was BDT 3003837 million. In FY 2014-15, most portion (71.31%) of export income earned from above mentioned top ten countries and from rest of the countries in the world export income earned only 28.69%. But in the FY 2015-16 and 2016-17 it was from top ten countries 68.23 percent and 86.16 percent and from rest of the world 31.23 percent and 13.84 percent respectively. The table-3 reveals that Bangladesh completely depends on some specific countries in response to export income, don't have good and effective economic relations with others countries in the world. This is not a good sign for Economy of Bangladesh.

Table: 4 Country Wise Export (In million USD)

Country	Fiscal Years (In million US\$)				
	2014-15	2015-16	2016-17	2017-18	2018-19*
USA	5783.43	6220.65	5846.64	5983.31	4593.7
UK	3205.45	3809.70	3569.26	3989.12	2775.8
Germany	4705.36	4988.08	5475.73	5890.72	4299.6
France	1743.54	1852.16	1892.55	2004.97	1472.4
Belgium	975.13	1015.33	918.85	877.90	633.9
Italy	1382.35	1385.67	1462.95	1559.92	1138.7
Netherlands	840.34	845.92	1045.69	1205.37	873.4
Canada	1029.13	1112.88	1079.19	1118.72	885.4
Japan	915.22	1079.55	1012.98	1131.90	947.4
Others	10628.99	11947.24	12352.06	12906.24	9942.7
Total	31208.94	34257.18	34655.90	36668.17	27562.79

Source: Export Promotion Bureau, NBR *-Provisional

Note: Data from FY2013-14 is based on custom records.

From the table-4 we expose that a mentionable total export rate increase from previous years from FY 2014-15 to 2017-18. Then from FY 2017-18 to 2018-19 country's export decrease from 36668.17 million US\$ to 27562.79 million US\$ which is 24.83% decrease export income. The result of Table-4 shows that Bangladesh dependent on some countries, while on the other hand, export income is decreasing.

Table-5 indicates that total import payments was BDT 3670702 million, BDT 3869349 million, and BDT 4712495 million for the FY of 2014-15, 2015-16 and 2016-17 respectively. Bangladesh paid import money only for top ten countries are 66.55%, 67.33% and 65.49% for the FY of 2014-15, 2015-16 and 2016-17 respectively this means that the import of the above-mentioned top ten countries responsible for the most part.

Table: 5 Import from Top Ten Countries ((Million Tk.)

Country	2014-15	2015-16	2016-17
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	Value (million tk)	% of total	Value (million tk)	% of total	Value (million tk)	% of total
1. China	166188	20.87	855092	22.10	1023760	21.72
2. India	449193	12.24	463776	11.99	573555	12.17
3. Indonesia	460281	4.37	164703	4.26	192771	4.09
4. Singapore	358644	9.69	360964	9.33	458468	9.73
5. Japan	129108	3.52	138583	3.58	157461	3.34
6. Republic of Korea	117644	3.20	109466	2.83	125594	2.67
7. Kuwait	90941	2.48	95451	2.47	88525	1.88
8. Hongkong	186398	5.08	216476	5.59	239802	5.09
9. Malaysia	120102	3.27	127629	3.30	157269	3.34
10. Germany	67328	1.83	72911	1.88	68801	1.46
11. Others Countries	1227875	33.45	1264298	32.67	1626489	34.51
Total import	3670702	100	3869349	100	4712495	100

Source: National Accounting Wing, BBS

Documents exhibits that in the FY 2014-15, 201-16 and 2016-17 only 33.45%, 32.67% and 34.51% import payments materialized for the rest of the countries in the world. Among the top ten countries China's position is one, within 100%, total 20.87%, 22.10% and 21.72% of total world import of Bangladesh occurred for the FY of 2014-15, 2015-16 and 2016-17 respectively with China.

DISCUSSION ON BANGLADESH-CHINA BUSINESS: EXPORT AND IMPORT

In 2018, China was one of the top merchandise traders and exporters of commercial services with 17% (by value) growing exports among the world's developing countries (WTO). Bangladesh and China business cooperation is stitched by the comparative advantage. Over the years, bilateral trade between China and Bangladesh has been very favorable to China. Bangladesh has been suffering from long-term trade deficit since the beginning of bilateral trade relations with China. Hopefully, both countries will overcome their limitations and achieve good trade momentum. The next table illustrates the volume of trade, and China offers desired.

Table: 6 Total Merchandise trade between Bangladesh and China with world

Year	Total Merchandise trade between Bangladesh and China with World							
	Bangladesh (Millions of US\$)				China (Billions of US\$)			
	Export to World	Annual Growth (%)	Import from World	Annual Growth (%)	Export to World	Annual Growth (%)	Import from World	Annual Growth (%)
2015	32379	6.5%	39460	-6.6%	2274.95	-2.9	1681.95	-14%
2016	34 971	8%	44 832	6.6	2 098	-7.7	1588	-5.5%
2017	35 851	2.7%	52 836	18	2 263	7.9	1844	16.1%

2018	39252	9.5%	60495	14.5	2487	9.9	2136	15.8%
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Source: UNCTAD, <https://stats.unctad.org/handbook/MerchandiseTrade/Total.html>

Table-6 indicates the overall merchandise export and import value of Bangladesh and China from the year 2015 to 2018. In 2015, the percentage of global exports of Bangladesh changed to world is positive 6.5% while imports decreased negative 6.6% from the previous year. On the other hand it was 2.2% and 14% decrease in compare to previous year. Then from 2016 to 2018 export-import of Bangladesh increase positively with 8%, 2.7% and 9.5% separately. Again on the Chinese side export-import decrease (7.7% and 5%) in 2016. But in the year 2017 to 2018 export-import increase 7.9% 9.9% and 16.1%, 15.8% respectively. Chines export volume always high than import but import volume of Bangladesh always high than export.

Table: 7 Bangladesh Export to China and India for FY 2009-2010 to 2015-2016

Value in '000' US\$

Country	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
China	178631	319658	401943	458118	746198	791004	808144
India	304625	512506	498419	563960	456633	527164	689622

Source: [Export Statistics Book 2015-2106](#), Export Promotion Bureau

Export Promotion Bureau of Bangladesh (EPB) confirmed the documents (Table-7) that export earnings from China and India for the FY of 2009-10 to 2015-16. In FY 2009-10 to 2012-13 Bangladesh exported to India more goods and services than China. Then from FY 2013-14 to 2015-16 Bangladesh earned more export incomes than India. In FY 2014-15 and 2015-16 Bangladesh earned USD 791.004 million and USD 808.144 million respectively but in case of India it was only USD 527.164 million and USD 689.622 million respectively.

Table 7 shows that Bangladesh has been increased export income from both of the country with time though on 2014.

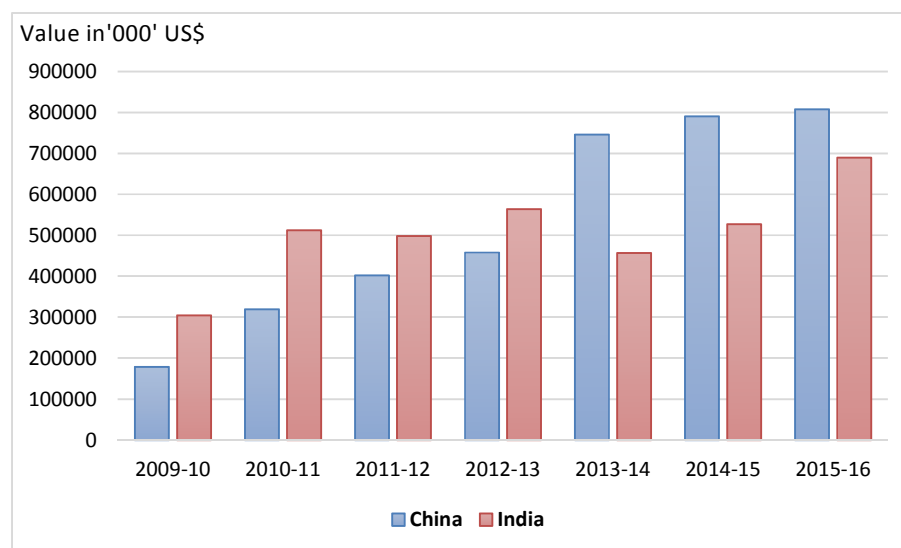


Figure: Comparative export scenario between China and India

Table: 8 Bangladesh Export to other SAARC Countries for FY 2009-2010 to 2015-2016

In million US\$)

SL No	Countries	2011-12	2012-13	2013-14	2014-15	2015-16
1	Afghanistan	3.59	3.58	3.60	4.30	4.88
2	Bhutan	9.13	1.82	1.91	4.92	4.74
3	Maldives	1.78	1.53	1.71	5.64	3.05
4	Nepal	61.97	26.41	13.69	25.05	17.88
5	Pakistan	73.21	68.70	56.04	57.57	47.07
6	Sri Lanka	42.59	23.69	26.81	23.92	30.45

Source: [Export Statistics Book 2015-2106](#), Export Promotion Bureau

Export income of Bangladesh from others SAARC countries just nominal figure. Among these, from Sri Lanka, Pakistan and Nepal Bangladesh earned more export income than others. In FY 2015-16 it was USD 30.45 million, US Dollar 47.07 Million and US Dollar 17.88 Million respectively (Table-8).

Table: 9 Country-wise export receipts of Bangladesh

Country	October-December, 2019		July-September, 2019		October-December, 2018	
	Taka	In millions US. Dollar	Taka	In millions US. Dollar	Taka	In millions US. Dollar
China	12519	148	12875	152	12394	148
India	23818	281	19186	227	18703	223
Canada	16798	198	21528	255	17697	211
France	37276	440	39165	463	35225	420
Japan	17993	212	17851	211	17199	205
Turkey	9242	109	8170	97	5452	65
U.S.A	93142	1099	99555	1178	86595	1033
U.K	64847	765	65154	771	59913	714

Source: Statistics Department, Bangladesh Bank, Economic Data 2020

Table 9 shows that at the end of 2019, Bangladesh received USD 148 million as export earnings from China and in mid-2019 it was USD 152 million. In the end of year 2018 it was same for china. But Bangladesh comparatively earned more from India in the year of 2019 and 2018 that was USD 281 million and USD 223 million (October-December). Maximum export income earned from USA then UK, Spain and France.

Table: 10 Comparative Import Payment of China and Some Others Countries

(In million USD)

Country	Fiscal Years (In million US\$)				
	2014-15*	2015-16*	2016-17*	2017-18*	2018-19*
China	11268	12582	13292	15937	12036
India	5588	5722	6336	8941	5515
Singapore	2894	1203	2113	2255	1479
Japan	1816	2075	2031	2422	1469
Hongkong	881	827	726	976	441
Taiwan	1060	1004	990	1129	763
S. Korea	1417	1417	1483	1907	1087
USA	880	1134	1358	2160	1735
Malaysia	1361	1184	1040	1342	1007
Others	13539	15974	17636	22096	15363
Total	40704	43122	47005	59165	40895

Source: Bangladesh Bank and National Board of Revenue (NBR), * Revised, **Up to February 2019. **Note:** Data from FY2014-15 is based on custom records.

From table-10 we can demonstrate that Bangladesh imported from China from FY 2014-15 to 2018-19 are USD 11268 million, USD 12582 million, USD 13292 million, USD 15937million and USD 12036 million respectively that are highest volume amid the countries in the world. Whereas India's position is second, where Bangladesh imported USD 5588 million, USD 5722 million, USD 6336 million, USD 8941 million and USD 5515 million in the year of 2015,2016,2017,2018 and 2019 respectively. Beside these Bangladesh imported from Singapore, Japan, Hongkong, South Korea, Malaysia, USA, Taiwan and many more countries. In the FY of 2014-15, 2015-16, 2016-17, 2017-18 and 2018-19 total imported values were USD 40704 million, USD 43122 million, USD 47005 million, USD 59165 million and USD 40895 million respectively.

Table: 11 Import Payments Under (cash + Buyer's Credit+ IDB/ITFC+ Loans & Grants) of Bangladesh with Top Ten Countries

Country	2018-19		2018-19	
	Taka in crore	% of Total	In million US\$	% of Total
China	114593.5	26.1	13638.8	26.1
India	64253.7	14.7	7647.5	14.7
Singapore	26098.3	6.0	3105.7	6.0
Indonesia	16305.3	3.7	1940.3	3.7
Japan	15517.4	3.5	1846.3	3.5
USA	14930.9	3.4	1776.6	3.4
Malaysia	12572.4	2.9	1496.0	2.9
Brazil	11787.7	2.7	1402.4	2.7
Korea, Republic Of	11047.2	2.5	1314.7	2.5
United Arab Emirates	10278.6	2.3	1222.6	2.3

Source: Bangladesh Bank, Economic Data 2020

Moreover, Table-11 reveals that the destination pattern of imports during the year under review showing that China topped the list of suppliers which earned US Dollar 13638.8 (26.1%) million from export to Bangladesh during the year 2018-19. India was the second highest (USD 7647.5 million). The third highest country was Singapore which supplied merchandise worth to Bangladesh USD 3105.7 million (6%) during 2018-19. Indonesia being the fourth (USD 1940.3 million) and Japan being the fifth (USD 1846.3 million). U.S.A., Malaysia, Brazil, Korea republic of, and United Arab Emirates (UAE) followed in descending order of magnitude in respect of import payments and accounted for Taka USD 1776.6 million, USD 1496.0 million, USD 1402.4 million, USD 1314.7 million and US Dollar 1222.6 Million as compared to during the foregoing year.

Table-12 Direction of Export and Import by Country of China

Fiscal Year	Export (Million Taka)	Import (Million Taka)	Balance of Trade (Million Taka)
2013-2014	49164	538257	(-489093)
2014-2015	61934	769103	(-707160)
2015-2016	60774	856720	(-795946)
2016-2017	80754	1023760	(-943006)
2017-2018	77348	1181249	(-1103901)

Source: National Accounting Wing, BBS

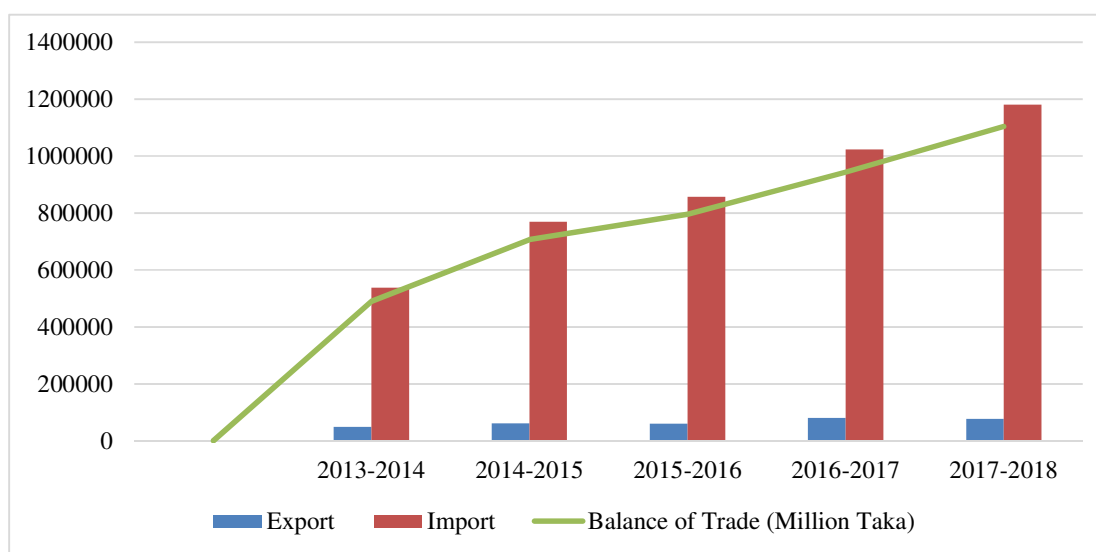


Figure: Export, Import and Trade Balance with China

Table 12 exhibits;

- ◆ During 2013-14, fiscal years Bangladesh imported goods worth BDT 538257 million from China while during the same period its exports to China were about BDT 49164 million. The trade deficits was BDT 489093 million.

- ◆ In 2014-2015 Bangladesh officially imported goods worth BDT 769103 million from China, while exports to China were US 358.08 million. During the period imports surged and trade imbalanced was BDT 707160 million.
- ◆ In 2015-2016, Bangladesh's trade deficit with India was BDT 795946 million while it was BDT 943006 million and BDT million in the FY 2016-17 and 2017-18 respectively. This is due to China's diversified manufacturing sector. Due to this convenient location, the Bangladeshi business community is attracted to import raw materials, finished goods and capital equipment from China, which is the reason for China's high import growth.

CONCLUSION, RECOMMENDATIONS AND LIMITATIONS

Bangladesh-China business cooperation demonstrates the virtual strength of both countries' dynamic development initiatives. China-Bangladesh relations and cooperation with the general interest of the twenty-first century has changed. Much more than before and the two countries are strengthening bilateral ties and their relationship is expected to be further strengthened under the positive Belt Road initiative. Despite the obstacles, bilateral trade relations between Bangladesh and China will be transformed into a concerted effort in the spirit of dynamic development. China's strong productive sector, tariff policy and research & development are the factors affecting growth of Bangladesh export market to China. Bangladesh unofficially imports colossal amount of goods from China which is a matter of concern. Huge trade gap acts as an obstacle to the development of bilateral relations between the countries. Bangladesh-China trade gap can be reduced, but China's view on reducing imports from Bangladesh is against the development of trade balance. China has been producing and exporting most of the products it produces in Bangladesh. China's anti-import trade policy is a big challenge for Bangladesh. On the other hand, it is very difficult to cut down essential imports from China without jeopardizing growth. Piecemeal efforts by Government of Bangladesh in the past to obtain trade concessions from China failed to raise exports. Though bilateral business cooperation will flourish economic growth and advancement of these two countries undoubtedly but imbalance will be the barrier. Year after year the document shows that continued trade deficits with bilateral business and suggests some policy measures to improve this trade deficit.

- Bangladesh needs to move away from import policy to improve trade deficits, import dependence must be reduce by applying force if necessary. Necessary amendments to China's bilateral policy are need to neutralize the adverse effects of favorable trade.
- It's geographical proximity, the abundance of natural resources and support to produce a variety of products; Bangladeshi business community to facilitate the business with China prefer to do business with. Only Bangladesh can allow to import machineries and capital equipment for industrialization.
- Government should seriously study the effects of existing business with China. China should be guaranteed access to Bangladeshi products (moderate liberalism, there is no tariff barriers and tax-free).

- Bangladeshi products face different types of tariff barriers. China imposes many non-tariff barriers to discourage imports from Bangladesh and other countries. Bangladeshi products should have real market access in China Which will be free from all tariff, non-tariff and para-tariff barriers and will open up investment opportunities.
- At present China imposes high import duties on Bangladeshi goods exporting to China. In such situation, when Bangladeshi goods will enjoy tariff concession exports of these goods will increase. Bangladesh will offer tariff concession for some products to China. Similarly Bangladesh will also seek tariff concession for some products from China.
- Keeping the imperatives of business cooperation with India, Free Trade Agreement (FTA) may be a good solution. Free Trade Agreement should contain safeguard provisions to protect Bangladesh's infant industries.
- Bangladesh manufacture sector is growing steadily, especially the small and medium enterprise (SME) sector should be expanded to meet competitive market situation and export quality Bangladeshi products should be produced.
- Government, Export Promotion Bureau (EPB) of Bangladesh and other trade bodies should be aware on improvement of trade facilitation and infrastructure development for increasing export volume from Bangladesh to China.

LIMITATIONS

In this stern attempt various difficulties of a serious nature at all stages of the enquiry have been experienced. The researcher has been observed lot of obstacles during the period of data gathering.

The limitation of the study covers areas such as the methodology and data analyses. The study was limited by the availability of the data. The data also could not be verified. In most cases researcher simply did not have any option but to furnish with data without verification. As discussed in the literature review, there have been a limited number of studies into bilateral trade between Bangladesh and China. Thus, the researcher would like to opine that this research has created several research scopes in the field of foreign trade. The researcher has made valid conclusions and recommendations base on the research findings where there are several issues and concepts that need further investigation and analysis that can lead future research initiatives.

References

1. Ahmed F., Salehin, F., Bhuiyan, M., & Ahamed, Y. (2015, August 3). Trade relation between China & Bangladesh. Retrieved from <http://www.slideshare.net/farabii/china-bangladesh-trade-relations>.
2. [Bangladesh Embassy](https://www.bdembassybeijing.org/bangladesh-china-trade-and-economic-relationship). (2017). Embassy of Bangladesh, Beijing-China, [Trade and Economy](https://www.bdembassybeijing.org/bangladesh-china-trade-and-economic-relationship) Bangladesh China Trade and Economic relationship, Retrieved from <https://www.bdembassybeijing.org/bangladesh-china-trade-and-economic-relationship>.
3. Bangladesh Statistics. (2017). Bangladesh Bureau of Statistics (BBS) Statistics and Informatics Division (SID) Ministry of Planning
4. Bangladesh Economic Review. (2019). Retrieved from https://mof.portal.gov.bd/sites/default/files/files/mof.portal.gov.bd/page/f2d8fab9_29c1_423a_9d37_cdb500260002/6.%20Socio-Economic%20Indicators.pdf

5. Bangladesh Bank Economic Data. (2020). Retrieved from https://www.bb.org.bd/sme/industrylist_eng.pdf
6. Central Intelligence Agency. (2020). [The World Factbook report on South Asia: Bangladesh](https://www.cia.gov/index.html). Retrieved April 13, 2020, from <https://www.cia.gov/index.html>
7. Church, S. K. (2016). The Giraffe of Bengal: A Medieval Encounter in Ming China, *The Medieval History Journal*. 7(12), 1–37. doi:[10.1177/097194580400700101](https://doi.org/10.1177/097194580400700101)
8. European commission. (2013, November 21). China: Countries and regions, Retrieved from <http://ec.europa.eu/trade/policy/countries-and-regions/countries/china>
9. Economic Times, (July 2020). India plans to enhance trade with Bangladesh, Retrieved from <https://economictimes.indiatimes.com/news/economy/foreign-trade>
10. Embassy of China (2010). Bilateral Agreement with in Bangladesh, Retrieved from <http://bd2.mofcom.gov.cn/article/bilateralcooperation>
11. Global Security.org (2020). Retrieved on 01.04.2020, from <https://www.globalsecurity.org/military/world/bangladesh/forrel-prc.htm>
12. Jun, L. (2014). A new opportunity for China-Bangladesh cooperation. Retrieved from <http://opinion.bdnews24.com/2014/03/12/a-new-opportunity-for-china-bangladeshcooperation>
13. Kawai, M., & Wignaraja, G. (2010). Asian FTAs: Trends, Prospects and Challenges. ADB Economics Working Paper Series No. 226. Manila: Asian Development Bank (ADB).
14. Kojima, K. (1964). The pattern of international trade among advanced countries. *Hitotsubashi Journal of Economics*, 5(1), 16-36.
15. Kabir, S. (2017). Analysis of Bilateral Trade between Bangladesh and China, *Journal of Economics and Sustainable Development* www.iiste.org ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online) Vol.8 (16), 10-18.
16. Kumar, A. (2010). Changing Dynamics of Sino-Bangladesh Relations, southasiaanalysis group. Retrieved 15 September 2008, from <http://www.Southasiaanalysis.org/papers14/paper1345.html>
17. Kumar, D. (1998). *The Chinese and Indian Economies in Colonialism, Property and the State*, Oxford University Press, New Delhi.
18. Hasnat, M.A., Kamrul, I. T., & Abdullah, M.T. (2017). The Bilateral Trade Relation in the world: China perspectives, *International Journal of Economics, Business and Management Research*, Vol. 1 (4), 73-86.
19. Liu, A., & Li, D. (2014). Growth of China's Urban Middle Class: It's Impacts on the Social and Economic Development. Middlesex University Business School.
20. Moazzem, K. G., Islam, M., & Raz, C. S. (2014). Bilateral Free Trade Agreements (FTAs) Opportunities and Challenges for Bangladesh - Framework Issues, CPD Working Paper 107.
21. Morrison, W. M. (2015). China-US trade issues. *Current Politics and Economics of Northern and Western Asia*, 20(3), 40.
22. Rahman, T. S., & Uddin, M. J. (2019). International Trade between China and Bangladesh, *Article International*, Vol-15 (7), 112-132. www.biliabd.org.
23. Rashed, M. S., & Ashraf Un, N. (2016). Doing Business in and with China: The Challenges are Great, but so are the Opportunities, *Global Journal of Management and Business Research: B Economics and Commerce* Volume 16 (2), 11-18.
24. Statistical Year Book Bangladesh (2018). Bangladesh Bureau of Statistics (BBS), Foreign Trade, Statistics and Information Division (SID), Ministry of Planning, Government the People's Republic of Bangladesh. Dhaka, Bangladesh 38th Edition,

Pp.272.

25. Trading Economics (2020). Bangladesh Exports, Retrieved from <https://tradingeconomics.com/Bangladesh/exports>

26. Tait, S. (2017). Sino-Bangladesh bilateral trade set to boom as China's Belt and Road initiative takes shape, XinhuaNet, Retrieved 01 April, 2020, from http://www.xinhuanet.com/english/2017-03/30/c_136171341.htm,

27. United Nations (2011). International Merchandise Trade Statistics: Concepts and Definitions 2010. Department of Economic and Social Affairs, Statistics Division, Statistical Papers, ST/ESA/STAT/SER.M/52/Rev.3. United Nations publication. Sales No. E.10.XVII.13.

28. [Workman](#), D. (2019). Bangladesh's Top 10 Exports, Retrieved from <http://www.worldstopexports.com/bangladeshs-top-10-exports>.

29. World Trade Statistical Review (2019). Retrieved April 05, 2020, from https://www.wto.org/english/res_e/statistics_e/wts2019_e/wts2019

30. [Yesmin](#), S. (2018). The changing dynamics of China-Bangladesh relations, The Daily star, Retrieved April 01, 2020, from <https://www.thedailystar.net/>

31. Yue, C & Hua, P. (2002). Does comparative advantage explains export patterns in China? China economic Review, vol. 13 (2002), 276-296.

32. <http://www.thefinancialexpress-bd.com/2016/10/11/49001/China-Bangla-economic-cooperation:-Currenttrends-and-future-prospects> [accessed May 20, 2020].

33. <http://www.thefinancialexpress-bd.com/2016/10/11/49001/China-Bangla-economic-cooperation:-Currenttrends-and-future-prospects> [accessed April 12, 2020].

34. <https://oec.world/en/profile/country/bgd/#Exports> [accessed June 08, 2020].

35. https://www.researchgate.net/publication/319457140_The_Bilateral_Trade_Relation_in_the_World;_China_perspectives [accessed Jul 10 2020].

THE EFFECT OF GREEN HUMAN RESOURCE MANAGEMENT ON EMPLOYEE GREEN BEHAVIORS IN A DEVELOPING COUNTRY, VIETNAM

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Abstract

Green human resource management (GHRM) involves not only awareness toward environment affairs but also the social and economical well-being of the organization and the employees as well. Studies on GHRM are still limited and emerging in developing countries despite the fact that GHRM has been capturing great interest from management scholars and practitioners. The main purpose of the present study is to investigate the effect of GHRM on employee green behaviors in Vietnam, a developing country. Target participants are employees working in Vietnam hotel industry. Both offline surveys and online surveys are used to collect the necessary data. SPSS and AMOS are employed to process the gathered data and to examine if there are relationship between green human resource management and employee green behaviors.

Keywords: Green Human Resource Management, Green Knowledge, Green Awareness, Green Attitude, Job Performance, Job Satisfaction, Job Motivation, Green Workplace and Out-of-Workplace Behaviors, Vietnam.

Introduction

Pro-environmental issues have been of great international concern in the last decades (Jabbour, 2013). Individuals have been trying to make the earth greener in every activity of life, from ways of living, garbage disposal to ways of working, etc. Organizations also play important role in protecting the environment. Particularly, human resource management managers have been increasingly taking green issues in their practices more seriously. Green human resource management (GHRM), in specific, is considered a significant factor for organization in general and for HRM department individually. Since each individual is important in the process of protecting the earth, the positive effects of GHRM on every individual will not only enhance employees' productivity but also the organization's overall environmental performance and environmental protection in general. Therefore, the study is going to explore the roles of GHRM on employees' various aspects namely job commitment, green knowledge, green awareness, green attitude, job performance, job satisfaction, job motivation, green workplace and out-of-workplace behaviors.

The research is carried out to find out the roles of GHRM in influencing employee green behaviors. GHRM is expected to put effects on job commitment, green knowledge, green awareness, green attitude, job performance, job satisfaction, job motivation, green workplace and out-of-workplace behaviors. The objectives of this study are to explore the relationship between GHRM and the mentioned factors as well as:

- To inform organizations about the necessity of Green Human Resource Management.
- To inform organizations about the roles of Green Human Resource Management on employees' various aspects namely green job commitment, green knowledge, green awareness, green attitude, job performance, job satisfaction, job motivation, green workplace and out-of-workplace behaviors.

Literature Review

Human Resource Management

Human resource management (HRM) is proposed to consist of four basic functions: staffing, training and development, motivation, and maintenance. That is, HRM closely relates to the process of recruitment and selection, training and development, performance management as well as rewards for employees of any organizations. In less academic terms, HRM is categorized into four main activities: hiring people, preparing them, stimulating them, and keeping them (DeCenzo & Robbins, 2010). "Strategic HRM is the process of linking the human resource function with the strategic objectives of the organization in order to improve performance" (Bratton & Gold, 1999). HRM is more meaningful so long as it can deal with businesses' short-term and long-term goals effectively and efficiently. In short, HRM plays an important role in the overall organizational performance since it does not only deal directly with human resource but also links closely to the business' strategic goals and mission.

Green Human Resource Management

Green human resource management (GHRM) is defined as an aspect of HRM that concerns environmental management (Renwick et al., 2013). Masri and Jaaron (2017) defined GHRM as a way of "using HRM practices to reinforce environmentally sustainable practices and increase employee's commitment on the issues of environmental sustainability". Wikhamn (2019) also shares the same opinion when stating that "GHRM is the adoption of HRM strategies and practices that enable the achievement of financial, social and ecological goals, with an impact inside and outside of the organization and over a long-term time horizon while controlling for unintended side effects and negative feedback". Most of the previous literatures and studies have implied the importance of GHRM not only for HRM aspects but also for environmental issues and organizations' long-term goals. That is, GHRM also refers to the policies, practices and systems that make employees of the organization green for the benefit of the individual, society, natural environment, and the business (Arulrajah & Opatha, 2014). Particularly, "GHRM refers to all the activities involved in development, implementation and ongoing maintenance of a system that aims at making employees of an organization green. It is the side of HRM that is concerned with transforming normal employees into green employees so as to achieve environmental goals of the organization and finally to make a significant contribution to environmental sustainability" (Arulrajah & Opatha, 2014).

GHRM can be applied in various aspects of HRM namely job description and analysis, recruitment and selection, training and development, performance management and appraisal, pay and reward system, organizational culture, etc. “GHRM bundle can be considered as a cohesive set of human resource practices, which has consequences for the performance of manufacturing firms through: green hiring; green training and involvement and green performance management and compensation” (Zaid et al., 2018a). Tang et al. (2018) also referred to GHRM as set of policies and practices for protecting the environment such as green recruitment and selection, green training, green performance management, green pay and rewards, green involvement. Meanwhile, Kim et al. (2019) broadened the definition of GHRM to different levels of organizational management. Specifically, GHRM includes top management communication of the environmental policies and plans to employees, training them to understand new environmental practices, motivating employees to engage in environmental activities and giving rewards that can stimulate employees to be environmentally responsible.

Green Job Description

Increasingly, green job descriptions with environmental aspects are now being included for employees within the recruitment agenda. Arulrajah and Opatha (2016) mentioned including environmental dimension as a duty in green job description and green competencies as a special component in job specification. Ahmad (2015) emphasized the job description should be aligned with green tasks and goals to be achieved.

Green Recruitment

Green recruitment refers to selecting the right candidates with green awareness through the use of certain tests related to environmental issues (Jabbour, 2011; Ahmad, 2015; Shen et al, 2016; Masri & Jaaron, 2017). Particularly, green recruitment is the process of hiring individuals with knowledge, skills and behaviors that identify with organizational environmental management systems (Ahmad, 2015) “Recruiting candidates with green bend of mind make it easy for firms to induct professionals who are aware with sustainable processes and are already familiar with basics like recycling, conservation, and creating a more logical world.” (Ahmad, 2015). According to Wehrmeyer (1996), recruitment practices can support effective environmental management by making sure that “new entrants are familiar with an organization’s environmental culture and are capable of maintaining its environmental values”. The aim of this activity is to locate and stimulate potential candidates to apply for current or future vacancies, which means that green recruitment intends to increase the quantity and diversity of candidates for a certain job position (Jabbour & Santos, 2008). Recently, firms have begun to recognize that gaining reputation as a green employer is an effective way to attract new talent (Phillips, 2007; Stringer, 2009).

Green Selection

While recruiting aims at increasing the quantity of candidates, selection aims at reducing this quantity by choosing the candidate who best meets the criteria of the available vacancy (Jabbour & Santos, 2008). Arulrajah and Opatha (2016) defined green selection as selecting applicants who are sufficiently aware of greening to fill job vacancies and applicants who have been engaging in greening as consumers. The selection of people committed and sensitive to the environmental issue is believed to provide firms with employees’ potential contribution to the environmental management.

Green Training and Development

Ramus (2002), in a survey of managers on best management practices, concluded that environmental training and education, along with establishing a favorable environmental culture for the employees, were “the most important HRM processes that facilitate the achievement of environmental goals”. Training and development is a practice that focuses on “development of employees’ skills, knowledge, and attitudes, prevent deterioration of environmental management -related knowledge, skills, and attitudes” (Zoogah, 2011). Accordingly, green training and development “educate employees about the value of environmental, train them to work in ways that conserve energy, reduce waste, diffuse environmental awareness within the organization, and provide opportunity to engage employees in environmental problem-solving” (Zoogah, 2011). Green training and development make employees aware of different aspects and values of environment management. Thanks to these activities, employees can embrace different methods of conservation within an organization. Further, it sharpens the skill of an employee to deal with different environmental issues (Zoogah, 2011).

Green Performance Management

Performance management is the process by which employees are prompted to enhance their professional skills that help achieve the organizational goals and objectives in a better way and the recognition of the corporate strategy has culminated into the performance (Ahmad, 2015). Due to the recent trend in environmental management that affects global business strategy, performance management has been strongly influenced by the green wave. Green performance management consists of issues related to environmental concerns and policies of the company and the practice concentrates on the use of environmental responsibilities (Ahmad, 2015). By this, green performance management means to evaluate employee’s job performance according to organization green-related criteria as well as include a separate component for progress on greening in the performance feedback interview (Arulrajah & Opatha, 2016). This deals with establishing certain green criteria like performance in green incidents, green responsibilities, carbon emission reduction, waste reduction etc. for appraisals (Renwick et al., 2013; Tang et al., 2017)

Green Appraisal

The most important aspect of performance management is performance appraisal. In addition to meeting the criteria of reliability, validity and fairness, effective performance appraisals “provide useful feedback to employees and support continuous improvements in the firm’s environmental outcomes” (Jackson et al., 2011). Ahmad (2015) suggested that green performance appraisal should focus on such issues as environmental incidents, environmental responsibilities, communication of environmental policy, and green information system and audits. To be specific, the performance appraisal rating system should include dimensions for rating people on teamwork, collaboration, diversity, innovation, and environmental stewardship.

Green Rewards and Compensation

Rewards and compensation are the major HRM processes through which employees are rewarded for their performance (Ahmad, 2015). Accordingly, incentives and rewards can influence employees’ attention to the maximum at work and motivate them to exert maximum effort on their part to achieve organizational goals. In the context of GHRM, rewards and compensation can be assumed as potential tools

for supporting environmental activities and management in organizations (Ahmad, 2015). Rewarding green behaviors with various types of awards and financial incentives can be effective in motivating employees to generate eco-initiatives (Ramus, 2002).

Employee compensation programs can be modified based on the employee's appraisal ratings on the behavioral and technical competencies. In addition, employees can be awarded bonuses for their outstanding work on special projects (Liebowitz, 2010). "Green rewards can include the use of workplace and lifestyle benefits, ranging from carbon credit offsets to free bicycles, to engage people in the green agenda while continuing to recognize their contribution" (Pillai & Sivathanu, 2014).

Need for Green Human Resource Management

GHRM affiliates green workforce with ecological initiatives (Ahmad 2015; Arulrajah & Opatha, 2014). In addition, green programs have a positive relationship to environmental performance (AnuSingh & Shikha 2015). GHRM makes employees of the organization work "green" so that they reduce or eliminate wastes and then reduce overall costs of the organization. The organization will hence be able to "gain improvements in productivity, talent acquisition, employee retention, reputation, customer loyalty, and market expansion resulting in enhancing organizational competitiveness" (Arulrajah & Opatha, 2016). Thus, GHRM has recently been become a key business strategy for organizations where HR departments play an active part in going green at the organizations (Kar & Praharaj 2017).

Previous Studies on Green Human Resource Management

There have been a number of studies on the effect of GHRM on employee green behaviors. Cabral & Dhar (2019) carried out study about the effects of green training on employees' green competencies, namely green knowledge, green skills, green abilities, green awareness, green attitude, and green behavior. The research findings were that green knowledge, green skills, green awareness, green ability, green attitudes and green behaviors were positively related to green training. The result of Chaudhary's research in 2019 also indicated both direct and indirect influence of GHRM on employee green performance behaviors (task related and voluntary) through organizational identification. This result was similar to that of Dumont et al. (2017) where GHRM practices were found to significantly determine the in-role and extra-role green behaviors of employee both directly and indirectly via the creation of psychological green climate. Gilal et al.'s (2019) data in the setting of higher education institutions revealed that the firms' green HRM practices related positively to environmental performance. In other words, environmental performance can be improved by influencing employees' attitude and behavior. Another research by Kim et al. (2019) on the interrelationship between hotels' GHRM and environmental performance via employees' eco-friendly behavior also provides support for GHRM since it is proved to enhance employees' commitment to their organizations, their eco-friendly behaviors, and environmental performance of their properties. Furthermore, the essential role of employees' organizational commitment between GHRM and employees' eco-friendly behavior was also emphasized. Likewise, Pham et al. (2019) highlighted the finding that green training, green reward, and green organizational culture are necessary factors to enhance employee commitment in the environmental activities in organizations. Besides,

according to Elziny (2019), GHRM practices had positive impacts on employees' eco-friendly behavior in hotels. This is consistent with previous study (i.e., Masri & Jaaron, 2017) which showed that there is a positive correlation between GHRM practices adopted by human resources managers in hotels and their employees' eco-behavior. Job performance, including task competency, flexibility and efficiency, professional development and work efficiency, is positively related to GHRM practices (Ragas et al., 2017).

Hypothesis Development

Job commitment

GHRM with environmental-management practice is a tool to enhance employees' commitment at work.

In a study by Forman and Jorgensen (2001) on the importance of employee participation in environmental programs, it was found that employee commitment to environment management programs was increased when they were offered compensation to take up duties in relation to environmental responsibility. A study by Berrone and Gomez-Mejia (2009) on 469 US firms operating in high-polluting industries also indicated that with green rewards and compensation, employees were more committed to green practices. Moreover, pollution from the researched companies was also decreased since their workers worked "greener". It can be said that green policies and green management system can promote employees' green commitment. That is, they are more willing to perform environmentally friendly activities.

H1: GHRM has a positive impact on employees' green job commitment.

Green competencies

Corral-Verdugo (2002) discussed green competencies as effective responses, green motives, perceptions and beliefs, which were essential to conserve the natural environment. Similarly, Fraijo-Sing et al. (2010) described green competencies as a combination of two key elements namely environmental knowledge and environmental skills, which need to be employed in accordance with the ecological requirement demanded by the society. Meanwhile, Subramanian et al. (2016) asserted that green competencies can consist of two types: artificial and natural. "Natural green competencies consist of an innate trait, especially environmental concern, wherein artificial green competencies consist of dimensions such as knowledge, skills, awareness, and behavior that pertain to the environment". In general, green competencies is defined as the "green knowledge, green skills, green abilities, green awareness and other environmental characteristics, such as green attitude and green behavior, that are required in green jobs to achieve financial and environmental performance through pollution prevention, product stewardship and sustainable development." (Cabral & Dhar, 2019)

Green knowledge

Green knowledge is defined as "general knowledge about the facts, concepts, and relationship regarding the natural environment and the entire ecosystem" (Fryxell & Lo, 2003, p. 48). The construct is concerned with knowledge related to environmental issues and formulating solutions to solve such issues through the formation of green attitudes and green behaviour (Kollmuss & Agyeman, 2002). Green knowledge is generally categorized into objective green knowledge and subjective green knowledge. The former means the factual green knowledge about environmental issues and latter means the action taken by the person against environmental issues based on knowledge (Pagiaslis & Krontalis, 2014). Green

knowledge is valuable to employee as it enables them to be eco-literate such as ability to recognize concepts and behavior which is associated to preservation and conservation of environment (Laroche, 2001).

Cabral and Dhar (2019) research findings indicated that green knowledge was positively related to green training. Chaudhary (2019) also emphasized the importance of GHRM, particularly green training, in enhancing employees' knowledge and skills through the organizational identification. In this study, it is proposed that GHRM has a positive effect on employees' green knowledge.

H2: GHRM enhances employees' green knowledge.

Green awareness

Green awareness in the organization enables the employees to be concerned about the impacts of their activities on the environment, making them initiate action to mitigate negative effects (Gadenne et al., 2009). Green awareness is considered to be a vital factor to implement environmental management systems in the organization (Cabral & Dhar, 2019). Such effective steps are required to initiate sustainable as well as responsible decision for the organization (Perron et al., 2006). In the context of construction industry, Sakr et al. (2010) asserted the role of green awareness in supporting environmental management system to reduce environmental degradation and results in sustainable development. Kirstges (2002) examined the impact of ecotourism on a nation's economy and stated that green awareness is a vital factor in achieving sustainability in tourism and helps the tourists to visit the appropriate ecotourism site.

GHRM can affect green awareness thanks to the communication of organization's preference for green and individuals' environmental values during recruitment in the employee selection process (Renwick et al., 2013). Moreover, green awareness can be enhanced through green training and development process of any organization. During this phase, employees are able to acquire and request for more information about the importance of environmental-protection activities within workplace and even in normal life.

H3: GHRM increases employees' green awareness.

Green attitudes

Attitude is "the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question" (Ajzen, 1991, p. 188). In the context of environmental management, green attitude has been defined as an "individuals' cognitive assessment of the value of environmental protection" (Lee, 2008, p. 580). Green attitude is a key variable that drives stakeholders to involve in pro-environmental behavior (BerginSeers & Mair, 2009). Green attitude has also been referred as the feelings which includes evaluative action to engage in environment-related behaviors (Cabral & Dhar, 2019). The importance of environmental education is highlighted wherein such education develops sustainability and environmental consciousness to integrate the pro-environmental traits among the employees (Major et al., 2017).

Li et al. (2011) findings suggested that "where HRM practices were perceived as distinctive, visible, relevant, and legitimate, their effects on employee attitudes will be positive regardless of national culture". Green policies can put impacts on employees' attitudes towards green activities at work since they act as a tool to adjust employees' working manners and activities. Green rewards and green environment are feasible outcomes for employees as long as they perform more

environmentally-responsible activities. Hence, GHRM is assumed to affect green attitude of workers positively.

H4: GHRM affects green attitudes positively.

Green workplace behaviors

From an organizational context, green behavior is defined as “scalable actions and behaviors employees engage in that are linked with and contribute to or detract from environmental sustainability” (One & Dilchert, 2012, p. 87). Green behavior is extended to actions that help developing eco-friendly production and regular monitoring of environmental costs which has positive impact on environmental management system and further leads to increase in financial performance (Cheng et al., 2019).

Casalo and Escario (2018) once mentioned the relationship between green attitude and green behavior. Specifically, the stronger the green attitude to protect the environment, stronger the green behavior exhibited by the employees.

H5: GHRM affects employees’ green workplace behaviors positively with green attitude as a mediating factor.

Promotions and rewards that recognize and appreciate employee green performance motivate them to engage in and contribute to green activities (Renwick et al., 2013). By incorporating elements of green management in the compensation program, managers can promote the green behaviors among the employees (Gupta, 2008; Ahmad, 2015). Moreover, involving employee in the implementation of green initiatives and providing green training are likely to make them more engaged in green behaviors (Chaudhary, 2019). According to the research’s findings of Kim et al. (2019) on hotel employees, as long as the employees strongly commit to their organizations, they will carry out more active eco-friendly behaviors. GHRM policies and practices that push employees’ green working activities will hence positively affect green workplace behaviors.

H6: GHRM promotes employees’ green workplace behaviors provided that they have strong job commitment.

According to AMO theory, personal ability and motivation form the basis for action, which will then happen if proper opportunities are provided by the organization. GHRM provides opportunities for employees to work greener in accordance with their ability and intrinsic motivation since GHRM has the target of “greening” the environment. Thus, it is assumed that GHRM can promote employees’ green workplace behaviors with intrinsic motivation as a mediator.

H7: GHRM is positively related to green workplace behaviors through employees’ intrinsic motivation.

Green out-of-workplace behavior

Green behavior is known by various terms such as eco-friendly behavior, environmentally sustainable behavior and responsible environmental behavior (Wang, 2016). Paço et al. (2019) elaborated on this by describing such behaviors as usage of green products that is energy efficient, less polluted, reusable and recyclable.

According to Theory of Planned Behavior (Ajzen, 1991), individual behaviors can be indirectly incurred due to attitudes towards the actions, with attention to do the activities as a mediating factor. GHRM is expected to positively affect employees’ awareness of protecting the environment, in other words, enhance their attitude towards “greener” activities. The results from the study of Ragas et al. (2017)

indicated that when an employee experiences GHRM practices in the workplace, he may incorporate them into his lifestyle. This is consistent with the findings of Muster and Schrader (2011), Gayathri and Karthikeyan (2013), and Datta (2015). Accordingly, “the employee might be motivated to take part in activities involving environmental sustainability which may develop an environmentally-responsible individual” (Ragas et al., 2017). Thus, GHRM is expected to not only promote green workplace behaviors but also green out-of-workplace behaviors.

H8: GHRM promotes employees’ out-of-workplace green behaviors.

Job performance

According to Hackman and Oldham’s (1976) Job Characteristics Model, employees’ job performance will increase in case there is meaningfulness of work perceived, responsibility for outcomes or knowledge of results. Particularly, task identity, task significant, autonomy and feedback are the main factors affecting the mentioned aspects. Organizations applying GHRM equip their employees with environmental management knowledge and policies as well as requirement to practice such rules with the aim at protecting the environment. Several workers in a study concluded that individual empowerment, in other words – autonomy, positively influences productivity and performance, and facilitates self-control, individual thinking, and problem-solving skills (Renwick, 2008; Wee & Quazi, 2005). In organizations applying GHRM, therefore, employees can have the sense of environment protection, which is a meaningful activity. All in all, GHRM is assumed to have meaningful implications that enhance employees’ job performance.

H9: GHRM affects employees’ job performance positively.

Job satisfaction

Hackman and Oldham’s (1976) Job Characteristics Model also indicates a meaningful and responsible job will increase employees’ workplace satisfaction. As mentioned, GHRM helps make the Earth in general and the working environment in particular less polluted. Hence, workers perceiving the meaningfulness of GHRM policies and being responsible for a greener environment can have more satisfied feelings towards their job, accordingly.

H10: GHRM affects employees’ job satisfaction positively.

Job motivation

According to Hackman and Oldham’s (1976) Job Characteristics Model, as long as employees feel the meaningfulness of their job, their intrinsic motivation also rise. GHRM clarifies the targets of environmental management and evaluation, which is to help promote environment-protecting activities that makes the Earth greener. Moreover, with recognition of employees’ green contribution through green rewards and compensation, GHRM also can motivate employees to work more effectively and environmentally friendly. Therefore, GHRM is expected to rise employees’ intrinsic motivation.

H11: GHRM rises employees’ intrinsic motivation to work more productively and environmentally friendly.

Research Methodology

Research Design

The present study’s purpose is to investigate the impact of GHRM on employees’ green human capital, green attitudes and behaviors, green performance, employee satisfaction, job performance and

Sample and Sampling Technique

Data Analysis

Conclusion

On the basis of the research findings on the relationships between GHRM and the mentioned variables, the study does hopefully promote pro-environmental awareness and behaviors not only in the working community but also in the society. Employees' productivity and organization's overall performance can be enhanced if GHRM is applied precisely as well. Furthermore, green workplace and out-of-workplace behaviors, as long as positively boosted by GHRM, will become a significant

contribution to both national and international effort of greening the Earth.

The study can provide information and incentives to renew and innovate hospitality industry in the world in general and in Vietnam in particular.

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References

- Ahmad, S. (2015). Green Human Resource Management: Policies and practices. *Cogent Business & Management*, 2(1).
- Ajzen, I., (1991). The theory of planned behavior. *Organ. Behav. Hum. Decis. Process.* 50, 179-211.
- AnuSingh, L. & Shikha, G. (2015). Impact of Green Human Resource Factors on Environmental Performance in Manufacturing Companies: An Empirical Evidence, *Interational Journal of Engineering and Management Sciences* 6 (1): 23-30.
- Aliaga, A. O. (2001) 'Human capital, HRD and the knowledge organization', in O. A. Aliaga (ed.) *Academy of Human Resource Development 2001: Conference Proceedings*, Baton Rouge, LA: AHRD, pp. 427-434.
- Appelbaum, E., Bailey, T., Berg, P., & Kalleberg, A.L. (2000). *Manufacturing advantage: Why highperformance work systems pay off*. London: ILR Press.
- Aprile, M.C. & Fiorillo, D. (2017). Water conservation behavior and environmental concerns: evidence from a representative sample of Italian individuals. *J. Clean. Prod.* 159, 119-129.
- Arulrajah, A. A., Opatha, H. H. D. N. P., & Nawaratne, N. N. J. (2015). Green Human Resource Management Practices: A Review. *Sri Lankan Journal of Human Resource Management*, 5(1), 1-16.
- Arulrajah, A. A., & Opatha, H. H. D. N. P. (2016). Analytical and Theoretical Perspectives on Green Human Resource Management: A Simplified Underpinning. *International Business Research*, 9(12), 153.
- Ashforth, B. E., & Mael, F. (1989). Social identity theory and the organization. *Academy of Management Review*, 14(1), 20-39.
- Bailey, T. (1993). *Discretionary effort and the organization of work: Employee participation and work reform since Hawthorne*. Teachers College and Conservation of Human Resources, Columbia University.
- Bandura, A. (1977). *Social Learning Theory*. New York: General Learning Press.
- Bauer, T.N. & Aiman-Smith, L. (1996). Green career choices: the influence of ecological stance on recruiting. *J. Bus. Psychol.* 10 (4), 445-458.
- Bauer, T. N., Erdogan, B., & Taylor, S. (2012). *Creating and maintaining environmentally*

sustainable organizations. In S. Jackson, D. Ones, & S. Dilchert (Eds.), *Managing human resources for environmental sustainability* (pp. 241–262). San Francisco, CA: Jossey-Bass.

Bratton, J. & Gold, J. (1999). *Human Resource Management: Theory and Practice*. New Jersey. Lawrence Erlbaum Associates, Inc.

Becker, G. S., Murphy, K. M. and Tamura, R. (1990) 'Human capital, fertility and economic growth', *Journal of Political Economy* 98: 2–37.

Benhabib, J. & Spiegel, M. M. (1994). 'The role of human capital in economic development: evidence from aggregate cross-country data', *Journal of Monetary Economics* 34: 143–73.

Benz, M., & Frey, B. S. (2007). Corporate governance: What can we learn from public governance? *Academy of Management Review*, 32, 92–104

Bergin-Seers, S. & Mair, J., (2009). Emerging green tourists in Australia: their behaviours and attitudes. *Tourism Hospit. Res.* 9, 109-119.

Berrone, P., & Gomez-Mejia, L. R. (2009). Environmental performance and executive compensation: An integrated agency-institutional perspective. *Academy of Management Journal*, 52, 103–126.

Berry, M. A., & Rondinelli, D. A. (1998). Proactive Corporate Environmental Management: A New Industrial Revolution. *Academic Management Executive*, 12(2), 38-50.

Bombiak, E. 2019. Green human resource management – the latest trend or strategic necessity?, *Entrepreneurship and Sustainability Issues* 6(4): 1647-1662.

Boselie, P. (2010). High performance work practices in the health care sector: A Dutch case study. *International Journal of Manpower*, 31(1), 42-58.

Boxall, P., & Purcell, J. (2003). *Strategy and human resource management*. London: Palgrave Macmillan.

Bret Becton, J. B., Giles, W. F., & Schraeder, M. (2008). Evaluating and rewarding OCBs. *Employee Relations*, 30, 494–514.

Brown, T. J., Dacin, P. A., Pratt, M. G., & Whetten, D. A. (2006). Identity, intended image, construed image, and reputation: An interdisciplinary framework and suggested terminology. *Journal of the Academy of Marketing Science*, 34(2), 99–106.

Brown, M., (2013). The development of green skills through the local TAFE Institute as a potential pathway to regional development. *Int. J. Train. Res.* 11, 27-43.

Bombiak, E. (2019). Green human resource management–the latest trend or strategic necessity. *Entrepreneurship and Sustainability Issues*, 6(4), 1647-1662.

Bürgener, L. & Barth, M., (2018). Sustainability competencies in teacher education: making teacher education count in everyday school practice. *J. Clean. Prod.* 174,821-826.

Cabral, C. & Dhar, R.L., (2019). Green competencies: construct development and measurement validation. *J. Clean. Prod.* 235, 887-900.

- Carroll, A., & Buchholtz, A. K. (2011). *Business & society* (8th ed.). Mason, OH: South-Western Cengage Learning.
- Casalo, L.V. & Escario, J.J. (2018). Heterogeneity in the association between environmental attitudes and pro-environmental behavior: a multilevel regression approach. *J. Clean. Prod.* 175, 155-163.
- Casler, A., Gundlach, M. J., Persons, B., & Zivnуска, S. (2010). Sierra Nevada Brewing Company's thirty-year journey toward sustainability. *People & Strategy*, 33, 44-51.
- Chang, C.-H., & Chen, Y.-S. (2013). Green organizational identity and green innovation. *Management Decision*, 51(5), 1056-1070.
- Chang, M.-C., & Wu, C.-C. (2015). The effect of message framing on pro- environmental behavior intentions: An information processing view. *British Food Journal*, 117(1), 339-357.
- Chaudhary, R. (2019). *Green Human Resource Management and Employee Green Behavior: An Empirical Analysis. Corporate Social Responsibility and Environmental Management.*
- Cheng, H., Hu, X. & Zhou, R. (2019). How firms select environmental behaviours in China: the framework of environmental motivations and performance. *J. Clean. Prod.* 208, 132-141.
- Choi, J.-H.. (2014). The HR-performance link using two differently measured HR practices. *Asia Pacific Journal of Human Resources*, 52(3), 370-387.
- Collier, J., & Esteban, R. (2007). Corporate social responsibility and employee commitment. *Business Ethics: A European Review*, 16, 19-33.
- Corbett, C. J., & Kirsch, D. A. (2001). International diffusion of ISO 14000 certification. *Production and Operations Management*, 10, 327-342.
- Corral-Verdugo, V., (2002), A structural model of pro-environmental competency. *Environ. Behav.* 34, 531-549.
- Cordeiro, J., & Sarkis, J. (2008). Does explicit contracting effectively link CEO compensation to environmental performance? *Business Strategy and the Environment*, 17, 304-317.
- Daily, B. F., & Huang, S. (2001). Achieving Sustainability through Attention to Human Resource Factors in Environmental Management. *International Journal of Operation and Production Management*, 21(12), 1539-1552.
- Daily, B. F., Bishop, J. W., & Steiner, R. (2007). The Mediating Role of EMS Teamwork as it Pertains to HR Factors and Perceived Environmental Performance. *Journal of Applied Business Research*, 23(1), 95-110.
- Dangelico, R.M. (2015), "Improving firm environmental performance and reputation: the role of employee green teams", *Business Strategy and the Environment*, Vol. 24 No. 8, pp. 735-749.
- Das, D. & Hussain, I., (2016). Does ecotourism affect economic welfare? Evidence from kaziranga national park, India. *J. Ecotourism* 15, 241-260.
- Datta, M. (2015). Green work- life balance: A new concept in green HRM. *International Journal of Multidisciplinary Approach and Studies*, 2(2), 83-89.

- DeCenzo, A., D. and Robbins, P., S. (2010). “*Fundamental of Human Resource Management*” 10th edition. USA. John Wiley & Sons, Inc.
- Denis, D. J., Hanouna, P., & Sarin, A. (2006). Is there a dark side to incentive compensation? *Journal of Corporate Finance*, 12, 467–488.
- Dubois, C. L., & Dubois, D. A. (2012). Strategic HRM as social design for environmental sustainability in organization. *Human Resource Management*, 51, 799–826.
- Dumont, J., Shen, J., & Deng, X. (2017). Effects of green HRM practices on employee workplace green behavior: The role of psychological green climate and employee green values. *Human Resource Management*, 56(4), 613–627.
- Elziny, M. (2019). The Impact of Green Human Resource Management on Hotel Employees’ Eco-Friendly Behavior. *International Academic Journal Faculty of Tourism and Hotel Management*, 5(5), 107-126.
- Engelbrecht, H. (2003) ‘Human capital and economic growth: cross-section evidence for OECD countries’, *Economic Record* 79(Special Issue): 40 – 51.
- Florida, R., & Davison, D. (2001). Gaining from Green Management: Environmental management systems inside and outside the factory. *California Management Review*, 43, 64–84.
- Fraijo-Sing, B., Corral-Verdugo, V., Tapia-Fonllem, C., Gonzalez-Lomeli, D., 2010. Promoting pro-environmental competency. In: *Psychological Approaches to Sustainability*. Nova, pp. 225-246.
- Forman, M., & Jorgensen, S. (2001). The social shaping of participation of employees in environmental work within enterprises—Experiences from a Danish context. *Technology Analysis & Strategic Management*, 13, 71–90.
- Fryxell, G.E. & Lo, C.W.H., (2003). The influence of environmental knowledge and values on managerial behaviours on behalf of the Environment: an empirical examination of managers in China. *J. Bus. Ethics* 46, 45-69.
- Gadenne, D.L., Kennedy, J. & McKeiver, C., (2009). An empirical study of environmental awareness and practices in SMEs. *J. Bus. Ethics* 84, 45-63.
- Garcia, S., Cordeiro, A., Naas, I. de A. & Costa Neto, P.L. de O., (2019). The sustainability awareness of Brazilian consumers of cotton clothing. *J. Clean. Prod.* 215, 1490-1502.
- Gayathri, N., & Karthikeyan, P. (2013). A review on green human resources management with exclusive allusion to green worklife balance. *International Journal of Business and Management*, 5, 40-45.
- Gerhart, B., (2005). Human resources and business Performance: findings, unanswered questions, and an alternative approach. *Manag. Rev.* 16, 174-185.
- Gilal, F.G., Ashraf, Z., Gilal, N.G., Gilal, R.G. and Chaana, N.A. (2019), “Promoting environmental performance through green human resource management practices in higher education institutions: a moderated mediation model”, *Corporate Social Responsibility and Environmental Management*.
- Goffin, R.D. & Woycheshin, D.E., (2006). An empirical method of determining employee

competencies/KSAOs from task-based Job analysis. *Mil. Psychol.* 18, 121-130.

Goh, S.K. & Balaji, M.S., (2016). Linking green skepticism to green purchase behavior. *J. Clean. Prod.* 131, 629-638.

Govindarajulu, N. and Daily, B.F. (2004), "Motivating employees for environmental improvement", *Industrial management & data systems*, Vol. 104 No. 4, pp. 364-372.

Guerci, M., Radaelli, G., Siletti, E., Cirella, S. & Shani, A.R. (2015). The impact of human resource management practices and corporate sustainability on organizational ethical climates: an employee perspective. *J. Bus. Ethics* 126 (2), 325-342.

Gupta, A. (2008). Earth on fire: Implications for corporate responsibility. *American Journal of Business*, 23, 3-4.

Harvey, G., Williams, K., & Probert, J. (2013). Greening the airline pilot: HRM and the 'green' performance of airlines in the UK. *International Journal of Human Resource Management*, 24, 152-166.

He, X. & Liu, Y., (2018). The public environmental awareness and the air pollution effect in Chinese stock market. *J. Clean. Prod.* 185, 446-454.

Hendricks, L. (2002) 'How important is human capital for development? Evidence from immigrant earnings', *American Economic Review* 92(1): 198 – 219.

Hogg, M. A., & Abrams, D. (1988). Social identifications: A social psychology of intergroup relations and group processes. London: Routledge.

Islam, G. (2014). *Social Identity Theory*.

Jabbour, C. J. C., & Santos, F. C. A. (2008). The Central Role of Human Resource Management in the Search for Sustainable Organizations. *International Journal of Human Resource Management*, 19(12), 2133-2154.

Jabbour, C. J. C., Santos, F. C. A., & Nagano, M. S. (2010). Contribution of HRM Throughout the Stages of Environmental Management: Methodological Triangulation Applied to Companies in Brazil. *International Journal of Human Resource Management*, 21(7), 1049-1089.

Jabbour, C. J. C. (2011). How Green are HRM practices, Organizational Culture, Learning and Teamwork? A Brazilian Study. *Industrial and Commercial Training*, 43(2), 98-105.

Jackson, S., Renwick, D., Jabbour, C. J. C., & Muller-Camen, M. (2011). State-of-the-art and future directions for Green Human Resource Management. *Zeitschrift für Personalforschung: German Journal of Research in Human Resource Management*, 25, 99-116.

Kar, A.K. & Praharaj, L. (2017). Green HRM: An Innovative Practice for Organisational Sustainability, *Indo-Iranian Journal of Scientific Research* 1(1):46-56.

Kanyimba, A.T., Richter, B.W. & Raath, S.P., (2014). The effectiveness of an environmental management system in selected South African primary schools. *J. Clean.*

Prod. 66, 479-488.

Karimzadegan, H. & Meiboudia, H., (2012). Exploration of environmental literacy in science education curriculum in primary schools in Iran. *Procedia - Soc. Behav. Sci.* 46, 404-409.

Kehoe, R. R., & Wright, P. M. (2013). The impact of high-performance human resource practices on employee attitudes and behaviors. *Journal of Management*, 39, 366–391.

Kim, Y. J., Kim, W. G., Choi, H.-M., & Phetvaroon, K. (2019). The effect of green human resource management on hotel employees' eco-friendly behavior and environmental performance. *International Journal of Hospitality Management*, 76, 83-93.

Kitazawa, S., & Sarkis, J. (2000). The relationship between ISO 14001 and continuous source reduction programs. *International Journal of Operations and Production Management*, 20, 225–248.

Kirstges, T., (2002). Basic questions of “sustainable tourism”: does ecological and socially acceptable tourism have a chance? *Curr. Issues Tourism* 5, 173-192.

Kollmuss, A. & Agyeman, J., (2002). Mind the gap: why do people behave environmentally and what are the barriers to pro-environmental behaviour. *Environ. Educ. Res.* 8, 239-260.

Laroche, M., (2001). Targeting consumers who are willing to pay more for environmentally friendly products. *J. Consum. Mark.* 18 (6), 503-520.

Li, X., Frenkel, S. J., & Sanders, K. (2011). *Strategic HRM as process: how HR system and organizational climate strength influence Chinese employee attitudes. The International Journal of Human Resource Management*, 22(9), 1825–1842.

Liebowitz, J. (2010). The role of HR in achieving a sustainability culture. *Journal of sustainable development*, 3, 50–57.

Liu, Y., Loi, R., & Lam, L. W. (2011). Linking organizational identification and employee performance in teams: The moderating role of team-member exchange. *International Journal of Human Resource Management*, 22(15), 3187–3201.

Lee, K., (2008). Opportunities for green marketing: young consumers. *Market. Intell. Plan.* 26, 573-586.

Longoni, A., Golini, R., & Cagliano, R. (2014). The role of new forms of work organization in developing sustainability strategies in operations. *International Journal of Production Economics*, 147, 147–160.

Lucas, R. (1988) ‘On the mechanics of economic development’, *Journal of Monetary Economics* 22: 3 – 42.

Lucas, R. E. (1990) ‘Why doesn’t capital flow from rich to poor countries?’, *American Economic Review: Papers and Proceedings*: 92 – 6.

Mael, F., & Ashforth, B. E. (1992). Alumni and their alma mater: A partial test of the reformulated model of organizational identification. *Journal of Organizational Behavior*, 13(2), 103–123.

- Major, L., Namestovski, Z., Horak, R., Bagany, A. & Krekic, V.P. (2017). Teach it to sustain it! Environmental attitudes of Hungarian teacher training students in Serbia. *J. Clean. Prod.* 154, 255-268.
- Mandip, G. (2012). Green HRM: People management commitment to environmental sustainability. *Research Journal of Recent Sciences*, 1, 244–252.
- Marín-García, J.A. (2013). What do we know about the relationship between High Involvement Work Practices and Performance? *Working Papers on Operations Management*, 4(2), 1-15.
- Marín-García, J.A., & De Miguel, E. (2001, October 8). La Gestion Participativa en las Grandes Empresas Industriales Españolas : Grado de Uso, Resultados Obtenidos y Comparación Internacional. Universitat Politècnica de València, Valencia (Spain).
- Masri, H.A. & Jaaron, A.A. (2017). Assessing green human resources management practices in Palestinian manufacturing context: an empirical study. *J. Clean. Prod.* 143, 474-489.
- May, D. R., & Flannery, B. L. (1995). Cutting waste with employee involvement teams. *Business Horizons*, 38, 28–38.
- Milliman, J., & Clair, J. (1996). Best Environmental HRM Practices in the US. In W. Wehrmeyer (Eds.). *Greening People Human Resources and Environmental Management* (pp.49-73). University of Kent, Canterbury, Kent, England.
- Millward, L. J., & Postmes, T. (2010). Who we are affects how we do: The financial benefits of organisational identification. *British Journal of Management*, 21(2), 327–339.
- Mowday, R., Porter, L., & Steers, R. (1982). *Employee—Organization Linkages: The Psychology of Commitment, Absenteeism, and Turnover*. New York: Academic Press.
- Muster, V., & Schrader, U. (2011). Green work-life balance: A new perspective for green HRM. *German Journal of Research in Human Resource Management*, 25(2), 140-156.
- Nafukho, F. M., Hairston, N., & Brooks, K. (2004). Human capital theory: implications for human resource development. *Human Resource Development International*, 7(4), 545–551.
- Nishii, L. H., Lepak, D. P., & Schneider, B. (2008). Employee attributions of the “why” of HR practices: Their effects on employee attitudes and behaviors, and customer satisfaction. *Personnel Psychology*, 61(3), 503–545.
- Neto, A. S., & Jabbour, C. J. C. (2010). Guidelines for Improving the Adoption of Cleaner Production in Companies through Attention to Nontechnical Factors: A Literature Review. *African Journal of Business Management*, 4(19), 4217-4229.
- Ojo, A.O., Raman, M. & Downe, A.G., (2019). Toward green computing practices: a Malaysian study of green belief and attitude among Information Technology professionals. *J. Clean. Prod.* 224, 246-255.
- Ones, D.S. & Dilchert, S. (2012). Employee green behaviors. In: Jackson, E., Ones, D.S., Dilchert, S. (Eds.), *Managing Human Resources for Environmental Sustainability*. Jossey - Bass, San Francisco, CA, pp. 85-116.

- O'Reilly, C., & Chatman, J. (1986). Organizational commitment and psychological attachment: The effects of compliance, identification, and internalization on prosocial behavior. *Journal of Applied Psychology*, 71, 492–499.
- Paço, A. do, Shiel, C. & Alves, H. (2019). A new model for testing green consumer behaviour. *J. Clean. Prod.* 207, 998-1006.
- Pagiaslis, A. & Krontalis, A.K., (2014). Green consumption behavior antecedents: environmental concern, knowledge, and beliefs. *Psychol. Market.* 31, 335-348.
- Paillé, P., Chen, Y., Boiral, O., & Jin, J. (2014). The impact of human resource management on environmental performance: An employee level study. *Journal of Business Ethics*, 121(3), 451–466.
- Pedersen, D.M., (1999). Dimensions of environmental competence. *J. Environ. Psychol.* 19, 303-308.
- Peerzadah, S.A; Mufti, S.& Nazir, N.A. (2018). Green Human Resource Management: A Review, *International Journal of Enhanced Research in Management & Computer Applications* 7(3): 790-795.
- Peng, X. & Liu, Y., (2016). Behind eco-innovation: managerial environmental awareness and external resource acquisition. *J. Clean. Prod.* 139, 347-360.
- Perron, G.M., Cote, R.P. & Duffy, J.F., (2006). Improving environmental awareness training in business. *J. Clean. Prod.* 14, 551-562.
- Pham, T. N., Tučková, Z., & Phan, Q. (2019). Greening human resource management and employee commitment towards the environment: An interaction model. *Journal of Business Economics and Management*.
- Phillips, L. (2007). Go green to gain the edge over rivals. *People Management*, 13, 9.
- Pillai, R., & Sivathanu, B. (2014). Green Human Resource Management. *Zenith International Journal of Multidisciplinary Research*, 4, 72–82.
- Raidén, A.B., Dainty, A.R.J., & Neale, R.H. (2006). Balancing employee needs, project requirements and organisational priorities in team deployment. *Construction Management and Economics*, 24(8), 883- 895.
- Ragas, S. F. P., Tantay, F. M. A., Chua, L. J. C., & Sunio, C. M. C. (2017). Green lifestyle moderates GHRM's impact on job performance. *International Journal of Productivity and Performance Management*.
- Rajiani, I., Musa & H., Hardjono, B., (2016). Ability, motivation and opportunity as determinants of green human resources management innovation. *Res. J. Bus. Manag.* 10, 51-57.
- Ramus, C. A., & Steger, U. (2000). The roles of supervisory support behaviors and environmental policy in employee “ecoinitiatives” at leading-edge European companies. *Academy of Management Journal*, 43, 605–626.
- Ramus, C. A. (2001). Organisational support for employees: Encouraging creative ideas for environmental sustainability. *California Management Review*, 43, 85–105.
- Ramus, C. A. (2002). Encouraging innovative environmental actions: What companies and managers must do. *Journal of World Business*, 37, 151–164.

Renwick, D. (2008). *Green HRM: A review, process model, and research agenda* (Discussion Paper Series). The University of Sheffield.

THE IMPACT OF WORK ENVIRONMENT ON THE PRODUCTIVITY AND JOB SATISFACTION OF THE EMPLOYEES IN BPO COMPANIES IN QUEZON CITY

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ABSTRACT

One of the underlying principles of a work environment includes favorable working facilities and conditions that may generate higher level job satisfaction and productivity. The aim of this study is to determine the effect of work environment on the productivity and job satisfaction of the employees. Through convenience sampling, a total of 312 respondents were gathered from the business process outsourcing (BPO) companies in Quezon City. The method used in this study is a descriptive quantitative research. The work environment in this study is divided into four factors namely the physical environment, occupational safety, occupational health, and right technology/equipment. Research showed that all the factors of work environment are significant to the productivity of the employees. As for the work environment's effect on the job satisfaction of the employees, the factors such as physical environment, occupational safety, and right technology/equipment are significant. However, the factor occupational health is not significant to the job satisfaction of the employees. Thus, this study concludes that work environment is positively related to the productivity and job satisfaction of the employees in the business process outsourcing (BPO) industry in Quezon City.

Keywords: *Work Environment, Productivity, Job Satisfaction, Business Process Outsourcing*

INTRODUCTION

The Business Process Outsourcing (BPO) remain as one of the most rapid growing industry in the Philippines over the decade with a workforce that is over a million at the end of 2014 (Mercado, 2015). It is becoming a revolving door for the job hunters. Its business focuses on being plain providers of email response and managing services. For all types of customer relations such as travel services, technical support, education, customer care, financial services, and online business to customer and business support, these services have industrial capabilities (McGuire and McLaren, 2009).

Business Process Outsourcing (BPO) companies are considered third party providers of services

which are non-core of the line of business of their clients (Mahmoodzadeh et.al., 2012). Employees of said industry must be very effective in providing customer service by providing the right resolution to the customers' complicated queries and issues with full knowledge, confidence, and ease. Some of the common challenges the BPO employees face are stress and anxiety from communicating with agitated customers, de-motivation, and health issues caused by the changed body clock from the adjustments of the employees to the time zone of the customers their main client caters to which are foreign and locals (Subbarayalu, 2013).

N. Kamarulzaman, et.al. (2011), indicates in their study that the physical workplace environment is of great relevance in maintaining a healthy work environment since it is inside the respective office building they work in where most of the time of employees are spent. Clerical and other work related tasks are normally conducted inside the workplace. Their research stated that certain characteristics of the workplace environment can affect the way employees behave, perceive things, and perform their jobs significantly. N. Kamarulzaman et. al. (2011) agrees with Dole and Schroeder's study where it is assumed that the satisfaction of the employees with their physical workplace environment mostly result to better work outcomes.

In general, studies of work environment factors suggest that workplace environment influence how employees respond to certain scenarios, how they behave, their satisfaction, and how they perform their respective duties. The research by N. Kamarulzaman et. al. (2011) show mixed results as to the weight of the relevance of work environment features on the satisfaction of the employees to their job, behaviour and performance, and indirectly its effect on the level of concentration in performing their work duties and productivity.

This paper presents the literature reviews on the study of the impact of positive office environment towards the productivity and job satisfaction of the employees specifically in the business process outsourcing (BPO) industry. The factors of the work environment that will be used in this study will be the physical environment, occupational safety, occupational health, and right technology/equipment.

THEORETICAL REVIEW

1.1. Theoretical Background

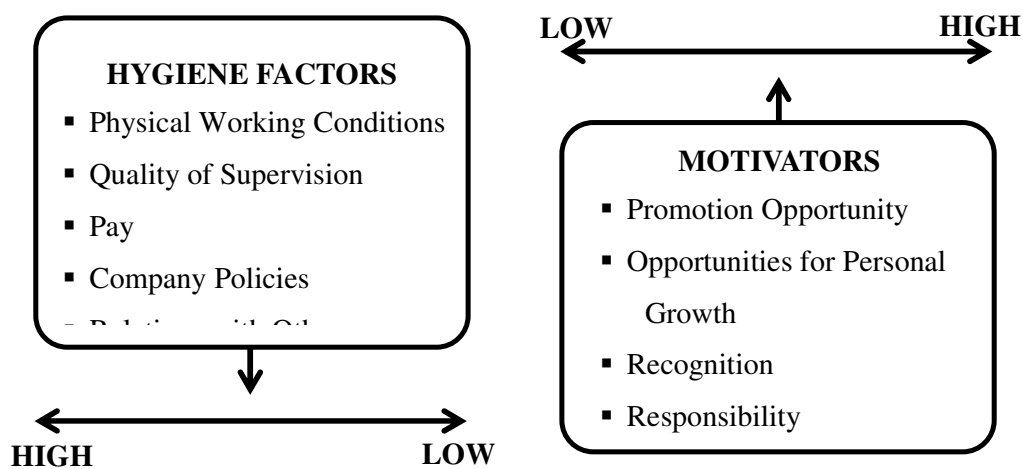
Herzberg's Two-Factor Theory

Herzberg developed two-factor theory of motivation which shows that motivators and hygiene factors can influence the performance and satisfaction of the employees. He described motivators as factors related to the actual job itself. These are factors that would directly boost and affect the motivation of the employees to work harder, and it usually has long lasting effects as it produces positive feelings instead of converting dissatisfaction to such. While hygiene factors are what surrounds the job that can not necessarily cause satisfaction, but would dissatisfy employees if not present. These include working conditions, working relationships, organizational rules and policies, administration, health and security, and compensation. According to the said theory, both factors work hand in hand in the way that hygiene factors transform dissatisfaction to no dissatisfaction, and motivators cause change from no dissatisfaction to satisfaction. (Herzberg et. al., 1959)

The motivators give sense of worth to employees through the way the organization gives them value,

increasing their motivational level (Bash and Amoako, 2011). Kyle Shobe (2008) explains that motivators cause psychological growth and high job satisfaction. According to Baah and Amoako (2011), hygiene factors result to external happiness which are not great enough to change dissatisfaction to satisfaction, but its presence is not belittled. Herzberg concludes that aspects in the workplace that cause satisfaction are distinct from aspects of which that dissatisfy them. Changing and developing the environment where the job is conducted helps employees perform better. The theory focuses on the significance of internal job factors as motivating factors (Cynthia Nanzushi, 2015)

This theory is applied to this study to help explain job satisfaction in the workplace. This research would be using hygiene factors such as physical environment, occupational safety, occupational health, and technology/equipment as parameters to measure the work environment that would affect the job satisfaction of employees.



Becker and Huselid's Theory

It was theorized by Becker and Huselid (1998) that the workplace environment influence the productivity of the employees. The theory suggests that a better work environment may be used by the companies as a strategic advantage in capturing the competitive market of human resource (Albaqami, 2015). By maintaining a positive work environment, employees are able to enjoy and work through the pressure in their work resulting to a more productive workforce.

LITERATURE REVIEW

Work Environment

The workplace environment affects employees' morale, productivity, and engagement both positively and negatively (Chandrasekar, 2011). The workplace condition of the employees can affect the performance of the employees. A study shows that whenever a company improves or develops its physical design, the employees' productivity tend to increased five to ten percent (5-10%).

The organization must develop an environment which ensures that employees are at ultimate ease of effort and reduces all the causes of frustration, anxiety, and worry (Jain and Kaur, 2014). Having unsafe physical condition increases the number of accidents of which employees are bound to sustain injuries in their working place. If an organization carries out unsafe equipment and tools, poor ventilation and

inadequate personal protective equipment, health and life of employees will be affected. These factors drastically result to the reduction of the productivity of the employees. The results and productivity of the organization will depend on the level of satisfaction of employees. The satisfaction and motivation level of employees is influenced by the work environment which makes it as one of the most important factors which influence the performance of the employees and their satisfaction (Jain and Kaur, 2014). Many people do not only focus on the salary scale when seeking for employment. They also take into consideration the working condition of an organization which includes the health and safety of employees. This makes having a good environment important in every organization.

According to Cynthia Nanzushi (2015), the way employees perform their work is based on the work environment of their organization which is composed of several factors. Having a comfortable and all inclusive workplace environment will help employees perform better hence, boosting the organizational performance. Giving employees the freedom and flexibility to decide how and when they complete projects may improve employee satisfaction and engagement. Having a positive work environment, employees will take pride in what they do, become more engaged, able to perform better, and care about their employer's future.

According to Raziq and Maulabakhsh (2015), work environment is classified into two broad categories which is the work that is mostly intrinsic in nature, and context which comprises of the extrinsic part of the work environment like the physical working conditions.

Physical Environment

According to Chandrasekar (2011), the attention in the workplace environment is of rising concern because most employees spend at least fifty percent of their lives within indoor environments which influences their cognitive and emotional states, concentration, behavior, actions, and abilities and by extension performance. This is also of more concern because employees at work need to focus, cooperate with each other, socialize and learn throughout their time on the job.

The environment, according to Ajala (2012), is man's immediate surrounding which he manipulates for his existence. Its wrongful manipulation, the scholar averred, triggers hazards capable of impeding on employees' performance and engagement at work. Since physical workplace environment consists of tangible components that are related to the office occupiers, which determine their abilities to physically connect to their work roles the nature and quality of the physical work environment is considered impactful on how employees interact, perform their roles as well as their mental, physical and emotional states (Sehgal, 2012, Oyetunji, 2014).

Occupational Safety

As stated by Florence Sambe (2017) Occupational Safety is defined as the science of anticipation, recognition, evaluation and control of hazards arising from the workplace that could impair the wellbeing of workers. It is a cross-disciplinary area that is concerned with protecting the safety, health and welfare of people engaged in employment or work.

As mentioned by Samwel Mwai, Msc. (2013) Occupational safety at the workplace is the act/concern of protecting the health and welfare of employees, customers, and many others who might be affected by the workplace environment

Occupational Health

According to Opatha (2012), Occupational Health means all the activities involved in protecting and promoting physical and mental health of the employees in order to enable them to perform jobs efficiently and effectively. Furthermore, Rachmawati (2009) has stated that the intention of the Occupational Health is to provide the comfortable working background and security at the production process when directly involved in the working environment.

Right Technology/Equipment

According to Samwel Mwai Msc., (2013) Use of right technology in the work place is important for a developing and already developed institution such as KFS. Technology enhances speed of work and increases output to meet set targets.

Productivity

According to Shobe (2018), productivity is the outcome of employees' satisfaction on their work whereas, the more satisfied the employees are with their work, the more productive they are. On the contrary, the less satisfied the employees are with their work, the less productive they are. Through the productivity ratio, an organization will be able to measure how well it converts input resources into goods and services (Ali, Ali and Adan, 2013). Based on studies, the level of productivity of every organization depends on how well and how much the performance of an employee is appraised and evaluated. These studies implied that the economic performance and the resources used to produce goods and services can be measure through productivity. As studied by Bornstein (2007), those employees who are exposed into a stressful office environment are more likely to have a decrease in productivity which will negatively affect their delivery service. That is why employee performance will be affected depending on the working condition of the company.

In such situations, productivity depends on how knowledge and skills are applied and less on giving the impression of "working hard" (Belanger, 2000). Paul Roelofsen (2002) mentioned that there will be a decrease in absenteeism, number of employees that leave work too early, and employees who take long lunch breaks as the employees' performance increases. During the working hours of the employees, both the quantity and quality of the production increases also due to the improvement of the performance of employees. Having a productive workplace will not only benefit the workforce, but the customers and investors as well.

According to Golden (2012), the flexibility of work schedules and the working hours of employees influence both labor and productivity. Having a flexible workplace decreases the life-to-job redundancy, that lessen the productivity inside the workplace. Bond and Galinsky (2006) stated that this holds even among hourly employees, including those at the entry level. As eloquently stated by Bloom et. al. (2009), this findings support the employer provision of better work-life balance practices like job flexibility that is associated with significantly higher productivity and self-assessed performance. Furthermore, injury and illness increases among the employees when they work in long schedules, especially irregular shift work times (Dembe et.al., 2008; Salmien, 2010).

H1: Positive work environment will lead to higher employee productivity.

Job Satisfaction

According to Anju and George (2011), job satisfaction is a promising feeling which an individual has in performing his job. It implies doing a job that one enjoys and at the same time being compensated in

his efforts and performance. Existence of job satisfaction is very important due to the fact that the most people spend a lot of time in their job. As stated by Kabir (2011), the number one asset of an organization is its employees. By making them happy and satisfied, the company will most likely become more successful. Satisfaction of human resource also means having highly motivated employees. Motivated employees then create loyalty or commitment to the company resulting to higher productivity and lower turnover rates (Kabir, 2011). Job satisfaction measures the overall satisfaction with work being a significantly wider variable than environmental satisfaction (Hongisto, 2016). That is why it is important for the management to build and maintain the satisfaction of the employees.

As mentioned by Rajput et. al. (2016), job satisfaction is highly affected by following factors: nature of work, compensation and benefits, advancement opportunities, management, work groups, and lastly, working conditions. As stated by Hussami (2008), the nature of job is not the only factor for job satisfaction and dissatisfaction. Employees nowadays seek for what a certain job has to offer for them. Statt (2014) stated that job satisfaction can be determined when the rewards that an employee gets particularly in intrinsic motivation is equal to the efforts that he or she exerted in his job.

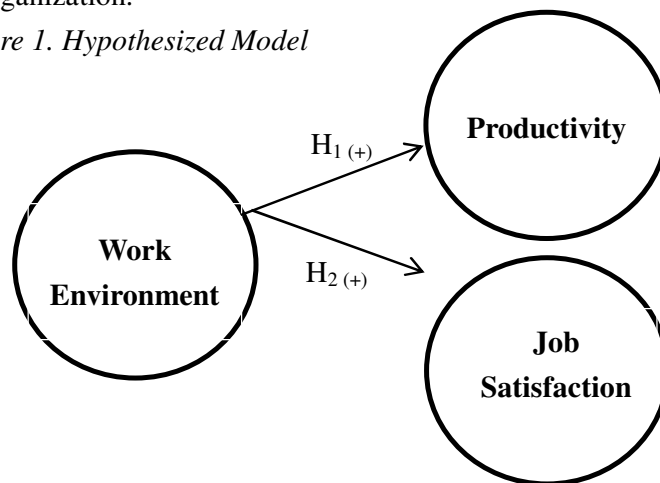
H2: Work environment is positively related to job satisfaction.

Hypothesized Model

In understanding the development of a conceptual framework, the researchers provide tools such as theories and models, and related literature with which to complete the two processes: the process of deriving the framework gives broad scope to thinking about the study and its variables and conceptualizing the problem; and provides a means to link ideas and data to that deeper connections can be revealed description.

The conceptual framework is developed to understand further the work environment in relation to the productivity and job satisfaction of the employees in the organization. This study seeks to determine how work environment affects the productivity and job satisfaction of the employees, wherein work environment is an independent variable while productivity and job satisfaction are dependent variables. The findings and recommendations in this study could be adopted and implemented to benefit the employees of the organization.

Figure 1. Hypothesized Model



METHOD

Research Design

This study adopted a descriptive quantitative research. Descriptive research is a method that determines the contemporary situation within the subject matter. According to Manuel and Medel (1976), “descriptive research involves the description, recording, analysis, and interpretation of the present nature, composition, or process of phenomena.”

Quantitative research is a systematic way of analyzing data gathered from various sources through the use of statistical, mathematical, and computational techniques to derive results. As stated by Aliaga and Gunderson (2002), “quantitative research is an inquiry into a social problems, explain phenomena by gathering numerical data that are analyzed using mathematically based methods.”

This method aims to draw out of the facts from the participants of the study that is needed to describe the experience of the office employees in the business process outsourcing (BPO) companies which serve as the basis for the analysis, interpretation, and recommendation.

Subject And Study Site

The data and information will be collected from the employees of business process outsourcing (BPO) companies in Quezon City. The researchers established the population to be three hundred and twelve (312) conveniently selected participants that are employed, knowledgeable to the policy of the organization, and working in office setting. In this method, it allows the researchers to acquire data that are less in classification error and gives an equal opportunity to all employees of the companies to avoid bias and prejudice.

Data Measures

The researchers used survey questionnaires as a research instrument to attain the needed information for the study. Likert scale will be applied to be able to identify the effect of work environment towards employees’ productivity and job satisfaction. This rating scale is used wherein the respondents are asked to indicate the level of agreement or disagreement with the statements related to the variables to measure their attitude.

Each factors of work environment will be incorporated and related to the productivity and job satisfaction. The various factors are measured on a six-point Likert scale with the following details below:

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
1	2	3	4	5	6

Moreover, the researchers adapted and modified the questionnaires of Samwel Mwai Msc., the author of “KFS Work Environment Survey” for validity and credibility of the survey questionnaires.

Data Collection Procedures

The data collection procedures used in this study is done through a survey that would guarantee the

processing of data which will produce results that are reliable. Three hundred and twelve (312) copies of survey questionnaires distributed were completed and returned successfully in an estimated period of three to four weeks. The data collected from surveys are answered by random selected office employees. The survey was also conducted after their work so as to not interrupt their working hours.

Ethical Consideration

This study respects the rights of each and every member of the respondents through the following manner: research participants were not subjected to harm in any manner; dignity of participants were prioritized including the employee's full consent prior to study; and, data privacy and confidentiality of the companies and respondents for the research were ensured and used for academic purposes only.

Any type of communication was done with full honesty and integrity. Misleading information, as well as representation of primary data findings in a biased way, were avoided.

Data Analysis

The data gathered in this study was handled with great care and confidentiality. It was made sure that each survey had been completed and that no questions had any blank answers. The data gathered was organized in its own accord and the researchers had determined the results for the survey about the impact of work environment on the productivity and job satisfaction through the six point Likert scale: (1) "strongly disagree"; (2) "moderately disagree"; (3) "slightly disagree"; (4) "slightly agree", (5) "moderately agree"; and (6) "strongly agree".

As for the work environment section, each factor was carefully evaluated with physical environment, occupation safety, occupational health, and right technology/equipment. Employees' productivity and job satisfaction sections were also carefully evaluated. This study used the SPSS version 20 to measure the descriptive or demographic profile of the respondents, and used Warp PLS version 5 for the structural equation modelling (SEM) to determine the significance of work environment on productivity and job satisfaction.

RESULTS

Table 1. Demographic Characteristics of Respondents

Profile		No. of Respondents	%
Gender			
	Female	123	39.4
	Male	189	60.6
Age			
	18-24	135	43.3
	25-34	145	46.5
	35-44	30	9.6
	45 and above	2	0.6
Civil Status			
	Single	253	81.1
	Married	55	17.6
	Separated	4	1.3
Educational Attainment			
	High School	55	17.6
	College Degree	251	80.4
	Master's Degree	6	1.9
Years of Service			
	Less than a year	90	28.8
	1-3 years	128	41.0
	4-5 years	34	10.9
	More than 5 years	60	19.2

Table 1 shows the demographic information of three hundred and twelve (312) respondents who belong in business process outsourcing (BPO) companies in Quezon City. Among these respondents, more than half were male (189 or 60.6%) and mostly of the respondents are within the age range of 25 to 34 years old (145 or 46.5%). Furthermore, the majority of the total respondents were single (253 or 81.1%) and predominantly have attained college degree (251 or 80.4%) and had been working in the business process outsourcing (BPO) for 1 to 3 years (128 or 41.0%).

Table 2. *Confirmatory Factor Analysis of Work Environment experienced by Employees in the BPO Companies*

Work Environment	β-Coefficient of Factor Dimension
PHYSICAL ENVIRONMENT	0.87
Work station/area is comfortable	0.84
The company has enough quality workplace furniture for its staff	0.83
Broken furniture and equipment are repaired on time	0.73
Current enclosed office arrangement system is satisfactory	0.88
Waste disposal is good	0.75
OCCUPATIONAL SAFETY	0.86
Staff knows where to take cases of emergency	0.78
Security gadgets (e.g. alarms) are operational	0.76
There are no cases of theft	0.71
I have seen first aid kit around the workplace	0.69
Safety of documents is guaranteed in the company	0.83
Staffs have adequate safety training	0.84
OCCUPATIONAL HEALTH	0.87
Offices/stations are well ventilated	0.85
Provision of clean drinking water in the work stations are adequate	0.81
General cleanliness of work environment is satisfactory	0.89
Washrooms in the office are clean	0.82
I have not heard of work-related illnesses in the company	0.65
RIGHT TECHNOLOGY/EQUIPMENT	0.89
Records management system is good	0.87
I have no difficulty in using my work tools and equipment	0.86
There is a desire to improve internal operating efficiency of staff	0.83
I am provided with the necessary work materials, tools, and equipment	0.90

Table 2 reveals how BPO office employees are productive and satisfied with their job. Confirmatory factor analysis results revealed that among the four (4) dimensions of work environment,

the right technology/equipment was a good indicator of their productivity and job satisfaction. The remaining dimensions namely physical environment, occupational safety, and occupational health weakly affect the productivity and job satisfaction of the employees while right technology/equipment moderately affects them.

The highest indicator of productivity and job satisfaction is when employees are provided with the necessary work materials, tools, and equipment ($\beta=0.90$) under the dimension of work environment with right technology/equipment. Followed by the situations where the general cleanliness of work environment is satisfactory ($\beta=0.89$) under the dimension of work environment with occupational health and when the office arrangement is adequate ($\beta=0.88$) under the dimension of work environment with physical environment.

The least indicator of productivity and job satisfaction is the unheard work-related illnesses in the company ($\beta=0.65$) under the dimension of work environment with occupational health. Followed by the existence of first aid kit around the workplace ($\beta=0.69$) under the dimension of work environment with occupational safety. Also, when there is no cases of theft ($\beta=0.71$) under the dimension of work environment with occupational safety.

Table 3. Regression Weights of Productivity as perceived by Employees of BPO Companies

Productivity	Standard Regression Weights
I maximize my time to accomplish the tasks assigned to me	0.64
I meet the target goals and quotas	0.75
I maximize my work hours to produce more output	0.83
I go beyond what is expected of me to ensure customer satisfaction	0.81
I attend to the needs of the customers as quick as possible	0.77

Table 3 presents the impact of each indicator to the productivity of employees in the BPO industry. Employees associate productivity to maximize the work hours to produce more output ($\beta=0.83$) and by going beyond what is expected from them to ensure customer satisfaction ($\beta=0.81$). The respondents least associated their productivity in maximizing their time to accomplish the tasks assigned to them ($\beta=0.64$).

Table 4. Regression Weights of Job Satisfaction as perceived by Employees of BPO Companies

Job Satisfaction	Standard Regression Weights
I always look forward to going to work	0.86
My work gives me a feeling of personal accomplishment	0.87
I have the materials and equipment that I need in order to do my work right	0.78
I feel positive and up most of the time I am working	0.90
I am engaged in meaningful work	0.90
I experience personal growth such as updating skills and learning different jobs	0.82
My co-workers are committed to doing quality work	0.69
Overall, I am satisfied with my job	0.88

Table 4 presents the impact of each indicator to the job satisfaction of employees in the BPO industry. Business process outsourcing (BPO) industry employees associate their satisfaction to their engagement in meaning work ($\beta=0.90$) and being optimistic and up most of the time they are working ($\beta=0.90$). The respondents least associated their satisfaction by the commitment of their co-workers from doing quality work ($\beta=0.69$).

The Emerging Model

This study aimed to show the emerging model that illustrates the impact of work environment towards the productivity and job satisfaction of the employees in the BPO companies. (See Fig. 2)

Figure 2. Emerging Model

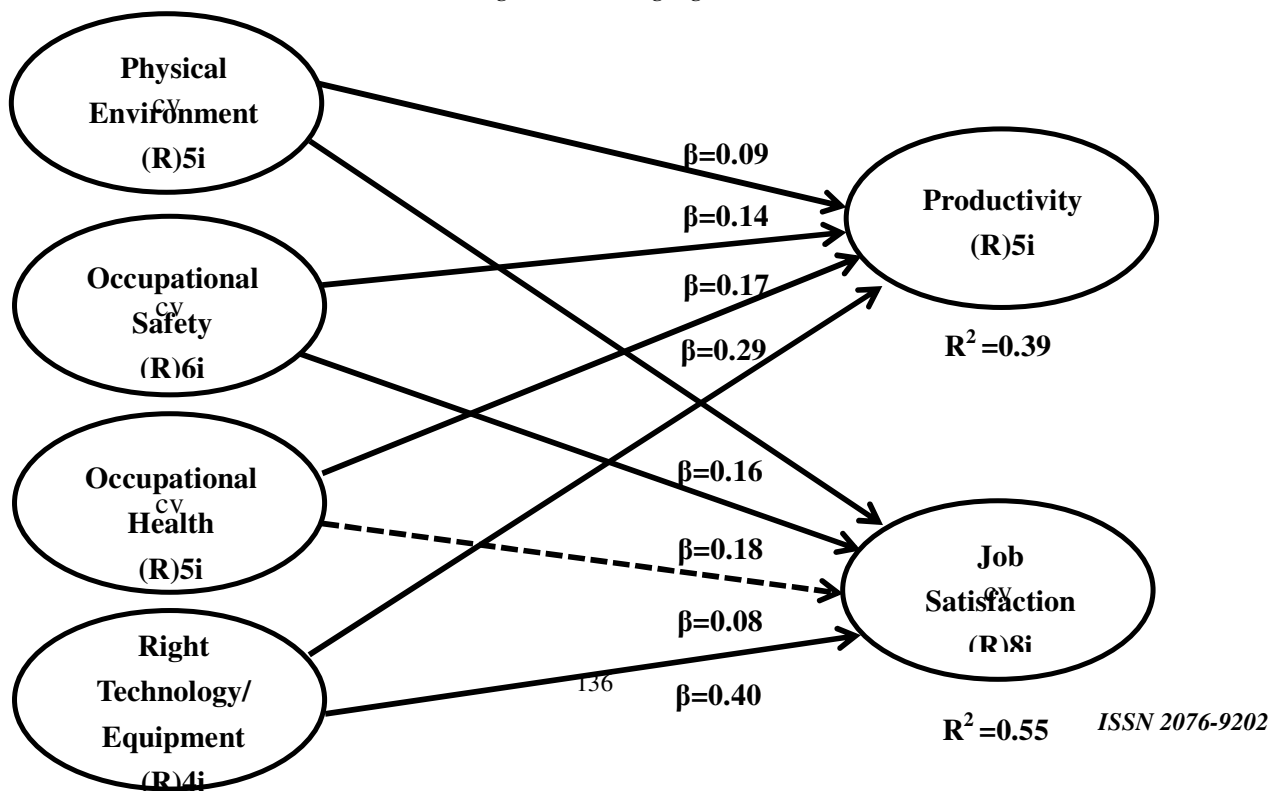


Table 5. Model Fit Statistics of Resulting Model

Measurement	Values
Average Path Coefficient (APC)	0.190
Average R-Squared (ARS)	0.469
Average Adjusted R-Squared (AARS)	0.462
Average block VIF (AVIF)	2.859
Average Full collinearity VIF (AFVIF)	2.815
Symptom's Paradox Ratio (SPR)	1.000

Table 5 reveals the model fit statistics of the resulting model namely: Average Path Coefficient (APC), Average R-Squared (ARS), Average Adjusted R-Squared (AARS), Average block VIF (AVIF), Average Full collinearity VIF (AFVIF), and Symptom's Paradox Ratio (SPR). Average Path Coefficient (APC) value of 0.190 and Average R-Squared (ARS) value of 0.469 measure fitness of the proposed model. Average block VIF (AVIF) value of 2.859 falls between the ideal ranges, less than 3.3 indicates the fitness of the proposed model. Other fit indices, the AARS (0.462) and AFVIF (2.815) likewise indicated measures within the acceptable level of 3.3, thus showing support of the proposed model.

As shown in Figure 1, this study hypothesized the impact of work environment towards the productivity and job satisfaction of the employees in the BPO companies. SEM Analysis revealed the role of exogenous variable towards the endogenous variables (Table 5). All factors of work environment such as physical environment, occupational safety, occupational health, and right technology/equipment are significant to the productivity of employees. In job satisfaction, physical environment, occupational safety, and right technology/equipment are significant to the employees. However, table 5 also shows that the p-value of occupational health is greater than .05 ($P > 0.05$) which makes that factor not significant on employees' job satisfaction. As hypothesized, if there is a positive workplace environment, employees increase its productivity and become more satisfied with their work. Interestingly, the emerging model revealed that work environment has significance on the productivity and job satisfaction of the employees. In relation to the emerging model, tables 3 to 4 contain the regression weights (β -coefficients) of the items measuring productivity and job satisfaction.

DISCUSSION

The main purpose of this study is to reveal the impact of work environment towards the productivity and job satisfaction of the employees.

So as to determine the relationship of the variables, Gall and Borg (2003) stated that the significance of the variables was interpreted through p-values. There is an existence of as significance variance when the p-value is less than 0.05 ($P < 0.05$), as if the p-value approaches to zero, the significance variance becomes stronger. Hence, there is no existence of any significance variances when the p-value is more than 0.05 ($P > 0.05$).

In view of the first hypothesis (H_1), the significance of the work environment to the productivity of the employees exists. By means of analyzing the factors of work environment, which are the physical

environment, occupational safety, occupational health, and right technology/equipment, the results will be as follows:

First, the physical environment shows significance to the employees' productivity as per record of $\beta=0.09$ ($P=0.05$) which agrees with the hypothesis H_1 . Moreover, it has been supported by the study of Ali El-Zeiny (2012), where she stated that the maintenance of a good physical environment would increase the productivity of the employees.

Second, the occupational safety shows significance to the employees' productivity as per record of $\beta=0.14$ ($P<0.01$) which agrees with the hypothesis H_1 . It has been supported by the study of Adjotor (2013), where he presents in his study that the perceived safety of the employees in their workplace creates a higher delivery of output because of the conducive environment it poses in the minds of the employees.

Third, as for the occupational health, results show an existing significance of the occupational health on the productivity of the employees as per record of $\beta=0.17$ ($P<0.01$) which agrees with the hypothesis H_1 . It has been supported by the study of Katsuro et.al.(2010), wherein he stated that an employee who is suffering from work-related illness would be unproductive. Adjotor (2013) believes that the well-being or health of an employee is vital for him to perform better than that of when he is sick. According to Adjotor's observation, a sick person could be physically present at work, but could be incapable of performing tasks well because his illness could lessen his level concentration, and could affect the quality of his work.

Fourth, as for the right technology/equipment, findings show the significance of right technology/equipment to the productivity of the employees as per the record of $\beta=0.29$ ($P<0.01$) which agrees with the hypothesis H_1 . It has been supported by study of Duru and Shimawua (2017) where it was mentioned that technological environment is an external factor that affects the productivity of the employees considering the changes in technology that makes the former practices obsolete.

In view of the second hypothesis (H_2), the significance of work environment on the job satisfaction of the employees exists. By means of analyzing the factors of work environment, which are the physical environment, occupational safety, occupational health, and right technology/equipment, the results will be as follows:

First, the physical environment shows significance to the job satisfaction of the employees as per record of $\beta=0.17$ ($P<0.01$) which agrees with the hypothesis H_2 . According to Raziq and Maulabakhsh (2015), employees must have a conducive and friendly working environment where there is no pressure and burden to be able to perform their tasks up to their maximum potential which as well leads to a high level of employees' job satisfaction. Furthermore, it was supported by the study of Shrivasti and Bhola (2015) where it was indicated that there is a positive relationship between the physical environment and employees' job satisfaction.

Second, as for the occupational safety, findings show the significance of occupational safety on the job satisfaction of the employees as per record of $\beta=0.18$ ($P<0.01$) which agrees with the hypothesis H_2 . It has been supported by the study of Rhoades et.al (2002), as he indicated that an adequate and safety work environment affects the satisfaction of the employees with their job.

Third, the occupational health shows no significance on the job satisfaction of the employees as

per record of $\beta=0.08$ ($P=0.08$) which disagrees the hypothesis H_2 . This contradicts the study of Sembe et.al (2017), as he mentioned that the stipulation of welfare services in the work environment increases the level of job satisfaction of the employees.

Fourth, as for the right technology/equipment, results show an existing significance of the right technology/equipment on the job satisfaction of the employees as per record of $\beta=0.40$ ($P<0.01$) which agrees with the hypothesis H_2 . Ratna et.al. (2016) states in his study that the provision of good and new technologies allow employees to work better as they are satisfied with the quality of the products and they are able to perform better services to the customers.

Thus, the emerging model is supported by Herzberg's two-factor theory which classifies work environment as a hygiene factor. Although the theory states that the presence of hygiene factors does not necessarily satisfy the employees and its absence can only result to the dissatisfaction. Juariyah and Saktian (2018) proved in their study that both factors are significant to the job satisfaction of the employees. They also stated that hygiene factors have bigger effect on the employees' satisfaction compared to the motivators.

Becker and Huselid's theory also supports the emerging model as the model illustrates the positive relation of work environment to the productivity of the employees. The presence and the excellence of the dimensions used to measure the work environment such as physical environment, occupational safety, occupational health, and right technology/equipment, actually helps the employees enjoy and work through the pressure they receive in work, allowing them to generate a greater number of output.

CONCLUSION

The present study aims to determine the impact of work environment on the productivity and job satisfaction of the employees in the BPO Companies in Quezon City. The results showed the significance of all factors of work environment on the employees' productivity. While for the job satisfaction, only the physical environment, occupational safety, and right technology/equipment have significant effect. The occupational health however, shows no significance with relation to the job satisfaction. This study agrees with the hypothesized model of the research, except for that of the occupational health factor of the work environment which contradicts the second hypothesis. The results showed the role of the factors of work environment to employees' productivity and job satisfaction.

Remarkably, this study has established that a healthy and positive work environment would result to a productive and satisfied workforce. However, not all factors as mentioned greatly contribute to the development of the satisfaction of the employees. Occupational health is considered to be insignificant to the job satisfaction as the employees already have knowledge of the health hazards their workplace have.

To the Human Resource practitioners, the authors of this study recommend that the work environment should be given attention to as it was proven that the work environment has a significant effect on the productivity and job satisfaction of the employees. As this study showed that among the factors of the work environment, right technology/equipment is the highest indicator for the improvement of the productivity and satisfaction of the employees, the provision of necessary work materials, tools, and equipment should be taken into consideration as well.

The work environment tackled in this study is limited to the factors such as physical environment, occupational safety, occupational health, and right technology/equipment of the Business Process Outsourcing (BPO) Companies in Quezon City. Future researchers may consider linking other factors of the work environment mentioned by Bhola (2015) in his study such as Social Environment, Psychological Environment, and Job Related Issues such as Job Rotation, Job Enlargement, and Job Enrichment to the productivity and job satisfaction of the employees Business Process Outsourcing (BPO) Companies in Quezon City.

REFERENCES

- Abraham, Margaret "Globalization and the Call Center Industry", *International Sociology*, March 2008, Volume 3, Issue 2, pp. 197-210
<https://doi.org/10.1177/0268580907086376>
- Subbarayalu, Arun Vijay "Occupational Health Problems of Call Center Workers in India: A Cross Sectional Study Focusing on Gender Differences", *Journal of Management Science and Practices*, August 2013, Volume 1, Issue 2, pp.63-70
[http://www.academia.edu/4728126/Occupational Health Problems of Call Center Workers in India A Cross Sectional Study Focusing on Gender Differences](http://www.academia.edu/4728126/Occupational_Health_Problems_of_Call_Center_Workers_in_India_A_Cross_Sectional_Study_Focusing_on_Gender_Differences)
- Haynes, Barry "An Evaluation of the Impact of the Office Environment on Productivity", *Facilities*, 2008, Volume 26, Issue 5-6, pp.178-195 <https://doi.org/10.1108/02632770810864970>
- Golshan, Nargess Mottaghi; Kaswuri, Aznur Hafeez; Aghashahi, Betsabeh; Amin, Muslim; Wan Ismail, Wan Khairuzzaman "Effects of Motivational Factors on Job Satisfaction: An Empirical Study of Malaysian Gen-Y Administrative and Diplomatic Officers", *2011 3rd International Conference on Advanced Management Science*, 2011, Volume 9
www.ipedr.com/vol19/1-ICAMS2011-A00004.pdf
- Kamarulzaman, N.; Saleh, A.A.; Hashim, H.; Hashim, A.A.; Ghani, Abdul "An Overview of the Influence of Physical Office Environment Toward Employee", *Procedia Engineering*, 2011, Volume 20, pp. 262-268
<https://doi.org/10.1016/j.proeng.2011.11.164>
- Baah, Kwasi Dartey; Amoako, George Kofi "Application of Frederick Herzberg's Two-Factor Theory in Assessing and Understanding Employee Motivation at Work: A Ghanaian Perspective", *European Journal of Business and Management*, 2011, Volume 3, Issue 9
<https://pdfs.semanticscholar.org/8120/9583968b25d38e08f353aef4004be7cd099c.pdf>
- Shobe, Kyle "Productivity Driven by Job Satisfaction, Physical Work Environment, Management, Support, and Job Autonomy", *Business and Economics Journal*, 2018, Volume 9, Issue 2
<https://doi.org/10.4172/2151-6219-1000351>
- Nanzushi, Cynthia "The Effect of Workplace Environment on Employee Performance in the Mobile Telecommunication Firms

in Nairobi City County”, *College of Humanities and Social Sciences*, 2015

<http://hdl.handle.net/11295/93719>

Albaqami, Talal “Working Environment and Productivity”, *International Journal of Scientific and Engineering Research*, December 2015, Volume 6, Issue 12

<https://www.ijser.org/researchpaper/Working-Environment-and-Productivity.pdf>

Dr. Chandrasekar, K. “Workplace Environment and Its Impact on Organisational Performance in Public Sector Organisations”, *International Journal of Enterprise Computing and Business Systems (Online)*, January 2011, Volume 1, Issue 1

www.ijecbs.com/January2011/N4Jan2011.pdf

Dr. Jain, Ruchi; Kaur, Surinder “Impact of Work Environment on Job Satisfaction”, *International Journal of Scientific and Research Publications*, January 2014, Volume 4, Issue 1

www.ijsrp.org/research-paper-0114/ijsrp-p2599.pdf

Ali, Ali Yassin Sheikh; Ali, Abdiaziz Abdi; Adan, Abdiqani Ali “Working Conditions and Employees’ Productivity in Manufacturing Companies in Sub-Saharan African Context: Case of Somalia” *Educational Research International*, October 2013, Volume 2, Issue 2

[www.erint.savap.org.pk/PDF/Vol.2\(2\)/ERInt.2013\(2.2-09\).pdf](http://www.erint.savap.org.pk/PDF/Vol.2(2)/ERInt.2013(2.2-09).pdf)

Belanger, Jacques “The Influence of Employee Involvement on Productivity: A Review of Research” *Applied Research Branch Strategic Policy*, June 2000

www.bibvir1.uqac.ca/archivage/000183551.pdf

Roelofsen, Paul “Impact of Office Environment on Employee Performance: The Design of the Workplace as a Strategy for Productivity Enhancement”, *Journal of Facilities and Management*, 2002, Volume 1, Issue 3, pp. 247-264

<https://doi.org/10.1108/14725960310807944>

Golden, Loonie “The Effects of Working Time on Productivity and Firm Performance: A Research Synthesis Paper”, *International Labor Organization (ILO) Conditions of Work and Employment*, August 2012, Volume 33, Issue 32-39

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2149325

Bond, James; Galinsky, Ellen “What Workplace Flexibility is Available to Entry-Level, Hourly Employees?”, *Families and Work Institute*, November 2006, Volume 3

www.familiesandwork.org/downloads/WorkFlexAvailabletoEntryLevelHourly-Brief3.pdf

Dembe, A.E; Erickson, J.B.; Delbos, R.G.; Banks, S.M. “The Impact of Overtime and Long Work Hours on Occupational Inquiries and Illnesses: New Evidence from the United States”, *Occupation Environment Medicine*, March 2005, Volume 62, pp. 588-597

<https://doi.org/10.1136/oem.2004.016667>

George, Sona “A Study on Job Satisfaction of Employees in BPCL Kochi Refinery”, *International Journal of Human Resource Management and Research*, March 2012, Volume 2, Issue 1, pp. 26-34

www.tjprc.org/publishpapers/tjprcabs355.pdf

Kabir, M.M. Nurul; Parvin, Mosammod Mahamuda “Factors Affecting Employee Job Satisfaction of Pharmaceutical Sector”, *Australian Journal of Business and Management Research*, December 2011, Volume 1, Issue 9, pp. 113-123

www.ajbmr.com/articlepdf/AJBMR_19_23i1n9a13a.pdf

Rajput, Shweta; Singhal, Mayank; Tiwari, Shiv Kant “Job Satisfaction and Employee Loyalty: A Study of Academicians”, *Asian Journal of Management*, 2016, Volume 7, Issue 2

<https://doi.org/10.5958/2321-5763.2016.00015.9>

Hongisto, V.; Haapakangas, A.; Varjo, J.; Helenius, R.; Koskela, H. “Refurbishment of an Open-Plan Office – Environmental and Job Satisfaction”, *Journal of Environmental Psychology*, 2016, Volume 45, pp. 176-191

<https://doi.org/10.1016/j.jenvp.2015.12.004>

Duru, Chika Ebenezer; Shimawua, Dominic “The Effect of Work Environment on Employee Productivity: A Case Study of Edo City Transport Services Benin City, Edo State Nigeria”, *European Journal of Business and Innovation Research*, October 2017, Volume 5, Issue 5, pp. 23-39

www.eajournals.org/journals/european-journal-of-business-and-innovation-research-ejbir/vol-5-issue-5-october-2017/effect-work-environment-employee-productivity-case-study-edo-city-transport-services-benin-city-edo-state-nigeria/

Hussami, Mahmoud AL. RN “A Study of Nurses’ Job Satisfaction: The Relationship to Organizational Commitment, Perceived Organizational Support, Transactional Leadership, Transformational Leadership, and Level of Education”, *European Journal of Scientific Research*, 2008, Volume 22, Issue 2, pp. 286-295

pdfs.semanticscholar.org/6ba5/6041f939ac4d51e14ea81929b41fd22c62b3.pdf

Ali El- Zeiny, Mahmoud “The Interior Design of Workplace and Its Impact on Employees’ Performance: A Case Study of Private Sector Corporations in Egypt”, *Procedia Social and Behavioral Sciences*, 2012, Volume 35, pp. 746-756

<https://doi.org/10.1016/j.sbspro.2012.02.145>

Shravasti; Raju; Bhola; Shankar, Sarang “Study on Working Environment and Job Satisfaction of Employees in Respect to Service Sector: An Analysis” *Review of Research*, January 2015, Volume 4, Issue 4

papers.ssrn.com/sol3/papers.cfm?abstract_id=2589502

Raziq, Abdul; Maulabkhsh, Raheela “Impact of Working Environment on Job Satisfaction”, *Procedia Economics and Finance*, 2015, Volume 23, pp. 717-725

[https://doi.org/10.1016/S2212-5671\(15\)00524-9](https://doi.org/10.1016/S2212-5671(15)00524-9)

Ratna, R.; Kaur, T. “The Impact of Information Technology on Job Related Factors like Health and Society, Job Satisfaction, Performance, Productivity, and Work-Life Balance”, *Journal of Business and Financial Affairs*, 2016, Volume 5, Issue 1
<https://doi.org/10.4172/2167-0234.1000171>

Adjotor, Franklin Nkudee “The Effects of Occupational Safety and Health on Labour Productivity: A Case Study of Some Selected Firms in the Greater Accra Region of Ghana”, *University of Ghana*, 2013
<https://197.255.68.203/handle/123456789/5297>

Madu, Nnenna Gladys; S.P. Asawo; J.M.O. Gabriel “Physical Workplace Environment and Employees’ Engagement: A Theoretical Exploration”, *International Journal of Arts and Humanities*, 2017, Volume 1, Issue 10, pp. 867-884
<http://www.journal-ijah.org/more.php?id=63>

D. P. Mihiravi; Perera, Dinoka “Impact of Occupational Safety and Health Practices on Job Satisfaction: A Study in Selected Large Scale Apparel Firms in Colombo District”, *3rd International HRM Conference*, 2016, Volume 3, Issue 1
<http://journals.sjp.ac.lk/index.php/phrc/article/view/2913>

Sembe, Florence; Ayuo, Amos “Effect of Selected Occupational Health and Safety Management Practices on Job Satisfaction of Employees in University Campuses in Nakuru Town, Kenya”, *Journal of Human Resource Management*, 2017, Volume 5, Issue 5, pp. 70-77
<http://doi.org/10.11648/j.jhrm.20170505.11>

DEVELOPMENT OF A PREDICTIVE MODEL TO PREVENT MORTGAGE RISKS

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Abstract

Delinquency has been a crucial factor in economics throughout the years. Commonly seen in credit card and mortgage, it played one of the crucial roles in causing the most recent financial crisis in 2008. In each case, a delinquency is a sign of the loaner being unable to pay off the debt, and thus may cause a lost of property in the end. Individually, one case of delinquency seems unimportant compared to the entire credit system. China, as an emerging economic entity, the national strength and economic strength has grown rapidly, and the gross domestic product (GDP) growth rate has remained as high as 8% in the past decades. However, potential risks exist behind the appearance of prosperity. Among the risks, credit system is the most significant one. Due to long term and large amount of balance of mortgage, it is critical to monitor the risk during the performance period. In this project, about 300,000 mortgage account data are analyzed in order to develop a predictive model to predict the probability of delinquency. Through univariate analysis, the data is cleaned up, and through bivariate analysis, the variables with strong predictive power are detected.

The project is divided into two parts. In the first part, the analysis data of 2005 are split into 2 parts, 60% for model development, and 40% for in-time model validation. The KS of model development is 31, and the KS for in-time validation is 31, indicating the model is stable. In addition, the model is further validation by out-of-time validation, which uses 40% of 2006 data, and KS is 33. This indicates the model is still stable and robust.

In the second part, the model is improved by addition of macroeconomic economic indexes, including GDP, consumer price index, unemployment rate, inflation rate, etc. The data of 2005 to 2010 is used for model development and validation. Compared with the base model (without microeconomic variables), KS is increased from 41 to 44, indicating that the macroeconomic variables can be used to improve the separation power of the model, and make the prediction more accurate.

1 Introduction

1.1 Current credit issues in China

One of the most important factors that keeps the society stable and active is economy, thus, the breakdown of economy seems fatal to the entire world. This is what happened seven years ago: as the financial crisis came, the entire community entered a stage of panic and all kinds of horrifying financial events happened: large financial institutions collapsed, stocks dropped worldwide and all kinds of

markets suffered. When being analyzed, one of the most significant causes of the 2008 Financial Crises is the flood of irresponsible mortgage in America. An irresponsible mortgage means that the person who loans the money failed to pay it back due to a variety of reasons, and a flood of irresponsible mortgage would eventually cause a financial collapse. Similar to the situation in the US in 2008, China is experiencing a same kind of situation, which there are no developed regulations on loans and there are rarely any practical risk managements while the economy itself is growing drastically. In fact, Chinese people and government are being aware that there are more and more irresponsible cases in which opportunists take advantages of the drastic inflation in markets like housing prices and disappear without dealing with the loans when they can't make money through inflation any more. As that being the case, it isn't hard to tell that if nobody steps up and work on preventing delinquencies, it is likely that in the future years China will also face a potential financial crises.

It is necessary for an individual, a corporation and a country to have a developed system of risk management. What is a good risk management? The concept itself is complicated intuitively; there are a lot of factors that would contribute to the accuracy of risk management like GDP, Inflation rate, Loan purpose, etc., those factors also changes rapidly over time. Thus, in creating a model for risk management, the model needs to be not only accurate for now, but also able to stay robust for a relatively long period of time would be a good risk management mode, and that is our primary goal: to develop a long-lasting and relatively accurate model for housing loan that would help to increase the stability of the economy in both the US and China.

1.2 Control of credit risk

At present, most financial institutions have implemented credit scorecard to evaluate the customers' credit applications, such as credit, mortgage, etc. and to determine whether to approve or deny the applications. This kind of scorecard rarely includes the macroeconomic indexes, such as GDP, inflation rate, consumer confidence index, etc. In addition, many financial institutions in China have not set up an real time mortgage risk model to monitor the customers' risk during the mortgage performance period, and provide early warning of default. For most cases, detection of default is too late to prevent the loss.

Therefore, the objective of this project is to develop a real time mortgage risk model to provide early warning of delinquency, and the model not only includes customers data but also include macroeconomic indexes. With the implementation of this model, accounts above the risk threshold will be pulled out into a report, and appropriate measures can be taken in early stage to prevent loss.

2. Method

2.1 Data

Loan level datasets from a financial institution are used for model development and validation. Two datasets are to be used in the analysis, origination dataset and performance dataset. There are 49,999 observations in the origination dataset, and 3,022,274 observations in the performance dataset. The origination dataset include variables for mortgage initiation, such as credit score, first home buyer flag, occupation status, loan to value ratio, debt to income ratio, interest rate, loan purpose, loan term, first

payment date, maturity date, etc. The performance dataset include variables such as loan delinquency status, loan age, zero balance code, zero balance effective date, current interest rate, etc.

2.2 Statistical Analysis

A logistic regression model was developed with delinquency status as a dependent variable (if the account is delinquent for more than 30 days, it is considered Delinquent = 1) and credit score, first home buyer flag, occupation status, loan to value ratio, debt to income ratio, interest rate, loan purpose, loan term, first payment date, maturity date, loan age, zero balance code, zero balance effective date, current interest rate, etc. as independent variables.

2.2.1 Logistic regression model development

The origination dataset and the performance dataset were merged into one combined dataset, which was randomly partitioned into two datasets, the training dataset (60%) for model development, and the holdout dataset (40%) for model validation.

Logistic regression is a part of a category of statistical models called generalized linear models, and it allows one to predict a discrete outcome from a set of variables that may be continuous, discrete, dichotomous, or a combination of these. Typically, the dependent variable is dichotomous and the independent variables are either categorical or continuous.

To develop the predictive model for mortgage delinquency, stepwise logistic regression was conducted using SAS version 9.2. In this study, a cutoff of P value < 0.05 was used for adding new variables. If an account is over 30 days delinquent (value of variable Current Loan Delinquent Status is ≥ 1), the outcome variable Delinquent is coded as 1, otherwise it is coded as 0. Logistic regression relates changes in the natural logarithm of the odds of delinquency to the changes in the independent variables ^[7].

The logistic regression model can be expressed with the formula:

$$\ln(P/(1-P)) = \beta_0 + \beta_1 * X_1 + \beta_2 * X_2 + \dots + \beta_n * X_n$$

where P is the probability of delinquency, β_0 is a constant, β_1 through β_n are the regression coefficients and X_1 through X_n are the independent variables, such as age, sex, factors of physical activity, factors of dietary habit, factors of physical activity, factors of smoking, factors of alcohol use, factors of drug use, etc. For simplicity, the left-hand side of the equation is often referred to as "the logit". The interpretation of the coefficients describes the independent variable's effect on the natural logarithm of the odds, rather than directly on the probability P.

To facilitate interpretation, e^{β_n} , a transformation of the original regression coefficient β_n can be derived, which can be interpreted as follows:

If $e^{\beta_n} > 1$, $P/(1-P)$ increases.

If $e^{\beta_n} < 1$, $P/(1-P)$ decreases.

If $e^{\beta_n} = 1$, $P/(1-P)$ stays unaffected.

After the logistic regression model was obtained, the observations in the training dataset were

scored, the predicted probabilities of delinquency were ranked and deciled, KS was calculated, and gain chart was presented.

2.2.2 Model validation

The holdout dataset was scored with the logistic regression model, the predicted probabilities of delinquency were ranked and deciled, Kolmogorov-Smirnov (abbreviated as KS) was calculated, and gain chart were presented. If the KS of the validation dataset is close to the KS of the training dataset, the model is considered stable.

3. Development of a Base Model with One Year Data

3.1 Univariate analysis

3.1.1 Descriptive statistics of continuous variables

For continuous variables, the number of observations, number of missing observations, minimum, 25% percentile, mean, 50% percentile (median), 75% percentile and maximum are generated and summarized in Table 1.

Table 1. Descriptive Analysis of Continuous Variables

Variable Name	Variable Description	N	Nmiss	Minimum	25%	Mean	50%	75%	Maximum
fico	credit score	49,966	34	360	682	723	728	770	850
dti	debt to income ratio	48,744	1256	0	28	36	36	44	65
orig_upb	original unpaid principle balance	50,000	0	12,000	115,000	181,209	166,000	236,000	692,000
ltv	loan to value ratio	49,997	3	7	65	72	79	80	100
int_rt	interest rate	50,000	0	4.63	5.63	5.87	5.88	6.00	8.90
orig_loan_term	original loan term (months)	50,000	0	301	360	360	360	360	360

In this table, the following explains the meaning of the columns:

N - Number of observations

Nmiss - Number of missing observations

Minimum - Minimum value of the variable

25% - 25 percentile value of the variable (or 1st quartile value, Q1)

Mean - average value of the variable

50% - 50 percentile value of the variable (or the Median of the variable, or 2nd quartile value, Q2)

75% - 75 percentile value of the variable (or 3rd quartile value, Q3)

Maximum - Maximum value of the variable

For the numeric variables, there is a small percentage of observations with missing values. These observations will be dropped from the analysis.

3.1.2 Descriptive statistics of categorical variables

For categorical variables, the frequency and percentage of each possible value are generated and summarized in Table 2.

Table 2. Frequency Analysis of Categorical Variables

Variable Name	Variable Description	Values	Description	Counts	Percentage
flag_fthb	first home buyer	N	Not First home buyer	39,597	79.19%
		Y	First home buyer	4,978	9.96%
		Missing	Missing value	5,425	10.85%
occupy_sts	occupancy status	I	Investment property	1,680	3.36%
		O	Owner occupied	45,769	91.54%
		S	Second home	2,551	5.10%
channel	mortgage channel	B	Broker	41	0.80%
		C	Correspondent	107	0.21%
		R	Retail	20,846	41.69%
		T	TPO Not specified	29,006	58.01%
ppmt_pnlty	prepayment punalty	N	No prepayment punalty	49,837	99.67%
		Y	With prepayment punalty	123	0.25%
		Missing	Missing value	40	0.08%
loan_purpose	loan purpose	C	Cash-out refinance	17,753	35.51%
		N	No Cash-out refinance	9,818	19.64%
		P	Purchase	22,429	44.86%
cnt_borr	number of borrowers	1	1 borrower	21,561	43.13%
		2	>1 borrower	28,429	56.87%

3.1.3 Data cleanup

To develop a valid model, data quality is very important. Models developed with unclean data may generate misleading results. For continuous variables, for observations with missing values, the observations are removed not included in the analysis. Observations with highly influenced values (outliers) can be removed or capped in the analysis. In this dataset, according to the descriptive statistics summarized in Table 1, there are no outliers. Observations with missing values are dropped out of the analysis dataset.

For categorical variables, it may not be appropriate to remove all the missing values from analysis, as missing values may represent certain behavioral patterns. Observations with missing values can be considered as a category of the possible values of the variable, and each category is redefined into a new variable.

For example, for variable first_home_buyer_flag, the 3 possible values are "Yes", "No" and missing. There is about 10% observations with missing value, and it may not be appropriate to remove the observations with missing values. However, the variable of first home buyer flag can be recoded into 3 new variables:

New variable 1, first_home_buyer_yes, if the value in first_home_buyer_flag is "Yes", the observations are coded to 1, otherwise coded to 0;

New variable 2, first_home_buyer_no, if the value in first_home_buyer_flag is "NO", the observations are coded to 1, otherwise coded to 0;

New variable 3, first_home_buyer_miss, if the value in first_home_buyer_flag is missing, the

observations are coded to 1, otherwise coded to 0.

3.2 Bivariate analysis

Bivariate analysis is to evaluate whether one of the independent variables is a strong predictor for the outcome variable. KS is used to evaluate the predictive power of the independent variables. The higher the KS, the higher the predictive power is. Table 3 summarizes the KS of the independent variables.

Table 3. KS of Bivariate Analysis

Variable Name	Description	KS
FICO	Credit Score	28
CLTV	Combined loan to value ratio	8
DTI	Debt to income ratio	12
LTV	Loan to value ratio	9
flag_fthb	First home buyer flag	3
occupy_sts	Occupancy status	4
loan_purpose	Loan purpose	11

The bivariate analysis results in Table 3 indicates that FICO credit score, debt to income ratio and loan purpose are strong predictors to predicting the probability of delinquency of an account.

3.3 Model development - logistic regression of the training dataset

The significance level of the analysis was 0.05. The dependent variable of the model is measured by the variable Delinquency Status. If an account is over 30 days delinquent (value of variable Current Loan Delinquent Status is ≥ 1), the outcome variable Delinquent is coded as 1, otherwise it is coded as 0 (coded as 1 = yes, 0 = no). The independent variables are FICO, debt to income ratio, loan to value ratio, first home buyer flag, occupancy status, loan purpose, etc. For 2005, there were 49,999 observations in the analysis dataset, excluding 1,290 observations with missing values, 48,709 observations were in the analysis dataset. The analysis dataset was split into two datasets in ratio of 60:40. 60% of the data was used for model development (29,225 observations) and 40% of the data was used for model validation (19,484 observations). The results of logistic regression analysis of the risk of delinquency of the training dataset were listed in Table 4.

Table 4. Logistic Regression Analysis of Mortgage Delinquency (Training Dataset)

Variable	Estimate	Stand Error	Wald ChiSq	P Value	β
Intercept	5.7069	0.2413	559.2456	<.0001	300.9367
fico	-0.0119	0.00028	1799.8827	<.0001	0.988171
dti	0.0142	0.00128	122.4096	<.0001	1.014301
ltv	0.0144	0.00111	170.3524	<.0001	1.014504
fhb_n	0.1774	0.0376	22.2657	<.0001	1.194109
occup_owner	-0.2153	0.0545	15.5833	<.0001	0.8063
purchase	-0.1606	0.0417	14.8216	0.0001	0.851633
cashout	0.155	0.0413	14.1142	0.0002	1.167658

For the 29,225 observations in the training dataset, they were scored with the parameter estimates obtained in the logistic regression model (Table 4), and the predicted logit (natural log of odds, i.e. $\log(p/(1-p))$) for each observation was obtained. Then the predicted probability of delinquency (p) was obtained. The observations were ranked by descending order of the predicted probabilities, and then divided into ten groups (each group is a decile). In the end, Kolmogorov-Smirnov (KS) statistic of the model was calculated (Table 5). The maximum KS of the model development was 31.

Table 5. KS of Model Development

No. Accts	% Accts	No. Delinquent Accts	No. Current Accts	Cumulative % of Delinquent Accts	Cumulative % of Current Accts	KS
2922	10.00%	1450	1,472	21.84%	6.52%	15.32%
2923	20.00%	1087	1,836	38.21%	14.65%	23.57%
2922	30.00%	917	2,005	52.03%	23.52%	28.50%
2923	40.00%	795	2,128	64.00%	32.95%	31.06%
2922	50.00%	648	2,274	73.76%	43.01%	30.75%
2923	60.00%	517	2,406	81.55%	53.67%	27.88%
2923	70.00%	418	2,505	87.84%	64.76%	23.09%
2922	80.00%	364	2,558	93.33%	76.08%	17.24%
2923	90.00%	263	2,660	97.29%	87.86%	9.43%
2922	100.00%	180	2,742	100.00%	100.00%	0.00%
29,225		6,639	22,586			

KS is the most commonly used model evaluation statistic for models predicting binary outcomes, such as Good vs Bad, Response vs Not Response, Delinquent vs Not Current, etc. KS ranges from 0 to 100, and it is the absolute difference between Cumulative Event% and Cumulative Non-Event%. Maximum KS is used noted as a measure of model separation power. In this project, the maximum KS of model development was 31. It showed that the model effectively separated the group of delinquent accounts from the group of current accounts.

3.4 In-time model validation

For the 19,484 observations in the holdout dataset, they were scored with the parameter estimates obtained in the logistic regression model (Table 4), and the predicted probabilities were obtained. The

observations were ranked by descending order of the predicted probabilities, and divided into ten groups. In the end, Kolmogorov-Smirnov (KS) statistic of the model was calculated (Table 6). The maximum KS of the model validation was 30.97.

Table 6. KS of the in-time model validation

No. Accts	% Accts	No. Delinquent Accts	No. Current Accts	Cumulative % of Delinquent Accts	Cumulative % of Current Accts	KS
1948	0.00%	947	1,001	21.20%	6.67%	14.53%
1948	100.00%	743	1,205	37.83%	14.69%	23.14%
1949	200.00%	622	1,327	51.76%	23.53%	28.23%
1948	300.00%	541	1,407	63.87%	32.90%	30.97%
1949	400.00%	399	1,550	72.80%	43.22%	29.58%
1948	500.00%	394	1,554	81.62%	53.57%	28.05%
1949	600.00%	281	1,668	87.91%	64.67%	23.24%
1948	700.00%	241	1,707	93.31%	76.04%	17.27%
1949	800.00%	166	1,783	97.02%	87.91%	9.11%
1948	900.00%	133	1,815	100.00%	100.00%	0.00%
19,484		4,467	15,017			

3.5 Out-of-time model validation

In order to evaluate the stability and robustness of the model, out-of-time validation is also conducted. Randomly select 40% of 2006 data (19,484 observations), score with the parameter estimates obtained in the logistic regression model (Table 4), and the predicted probabilities were obtained. The observations were ranked by descending order of the predicted probabilities, and divided into ten groups. In the end, Kolmogorov-Smirnov (KS) statistic of the model was calculated (Table 6.1). The maximum KS of the model validation was 33.28. It indicates that although the data is from different time frame, the model is still stable.

Table 6.1 KS of the out-of-time model validation

No. Accts	% Accts	No. Delinquent Accts	No. Current Accts	Cumulative % of Delinquent Accts	Cumulative % of Current Accts	KS
1948	10.00%	1046	902	21.81%	6.14%	15.66%
1948	20.00%	795	1,153	38.38%	13.99%	24.39%
1949	30.00%	703	1,246	53.03%	22.48%	30.56%
1948	40.00%	565	1,383	64.81%	31.89%	32.92%
1949	50.00%	493	1,456	75.09%	41.81%	33.28%
1948	60.00%	377	1,571	82.95%	52.50%	30.45%
1949	70.00%	299	1,650	89.18%	63.74%	25.44%
1948	80.00%	233	1,715	94.04%	75.41%	18.62%
1949	90.00%	167	1,782	97.52%	87.55%	9.97%
1948	100.00%	119	1,829	100.00%	100.00%	0.00%
19,484		4,797	14,687			

purchasing a home may decrease the probability of delinquency; while higher debt to income ratio, higher loan to value ratio, not first home buyer, and loan purpose is for cash out may increase the probability of account delinquency. Financial institutions can take appropriate measures to prevent early stage delinquency, such as tighten the loan approval policy, take early collection action if the account has higher probability of delinquency.

4.3 Evaluation of the logistic regression model

4.3.1 Overall model evaluation

A logistic model is said to provide a better fit to the data if it demonstrates an improvement over the intercept-only model (i.e. the null model) ^[4]. An improvement over the null model is examined by three inferential statistical tests: the likelihood ratio, score, and Wald tests. All three tests showed that the P values were <0.0001 (Table 7), indicating the logistic model obtained in this study was more effective than the null model.

Table 7. Testing Global Null Hypothesis: Beta = 0

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	2851.6214	7	<.0001
Score	2755.0732	7	<.0001
Wald	2474.9492	7	<.0001

4.3.2 Statistic tests of individual predictors

Wald chi-square static (Table 4) is used to test the statistical significance of individual regression coefficients (i.e. β s). According to the results listed in Table 4, variables of FICO, Debt to Income Ratio, Loan to Value Ratio, Not First Home Buyer, Owner Occupied, Loan for Purchase Home, and Loan for Cash-out are significant predictors in predicting account delinquency at the significance level of 0.05.

4.3.3 Goodness-of-fit statistics

The Hosmer-Lemeshow (H-L) tests the goodness-of-fit of the model. This test divides subjects into deciles based on predicted probabilities, then computes a chi-square from observed and expected frequencies. It tests the null hypothesis that there is no difference between the observed and predicted values of the response variable. Therefore, when the test is not significant, as in this project, the null hypothesis cannot be rejected, suggesting that the model fits the data well.

Table 8. Hosmer and Lemeshow goodness-of-fit test

Chi-Square	DF	Pr > ChiSq
5.6387	8	0.6876

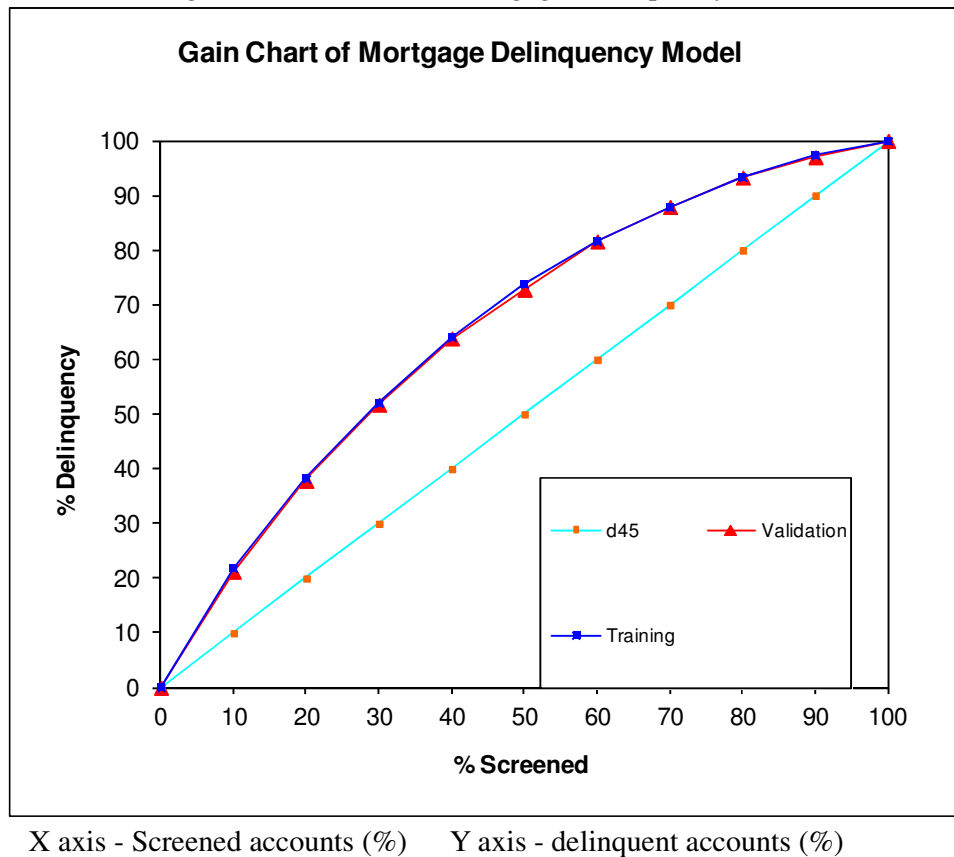
4.3.4 Validations of predicted probabilities

Logistic regression predicts the logit of an event outcome from a set of predictors. Because the logit is the natural log of the odds (or probability/(1-probability)), it can be transformed back to the probability scale.

The resultant predicted probabilities can then be revalidated with the actual outcome to determine if high probabilities are indeed associated with events and low probabilities with non-events. The degree to which predicted probabilities agree with actual outcome is expressed as a measure of association.

One of the commonly used method is to compare the gain chart of the training model and that of the validation model. The gain chart of the model could be presented by plotting percentage of screened account as the X axis, and the percentage of delinquent account as the Y axis. Figure 1 was the gain chart of the training dataset and the validation dataset. The two curves were almost overlapped, indicating the model was relatively stable. It can be seen in Figure 1 that if we target on 10% of the accounts, the model will detect 22% of delinquent accounts. With random effect, if we target on 10% of the accounts, 10% of delinquent accounts will be detected. Therefore, the lift of the model at top decile (10%) is 2.2, and the lift of the model for the top 3 deciles (30%) is 1.83.

Figure 1: Gain Chart of Mortgage Delinquency Model



5. Model Improvement with Addition of Macroeconomic Indexes

At present, most of the delinquency model are developed with the customers' data. In order to evaluate the impact of macroeconomics on customers' credit risk, the macroeconomic indexes including GDP, unemployment rate, consumer price index, and inflation rate of 2005 to 2010 were combined with the customer data of the same time frame to build a new model. There were 299,997 observations in the raw data, and after data cleanup, there were 294,819 observations used for analysis. The analysis dataset was randomly divided into two datasets, 60% was used for model development, and 40% was used for model validation.

5.1 Development of base model with 6 years data (without macroeconomic indexes)

The base model is developed with logistic regression, and the model is as follows:

$$\begin{aligned} \text{Predicted logit of delinquency} = & 6.9205 - 0.01517 \times \text{FICO Score} + 0.0199 \times \text{Debt to Income Ratio} \\ & + 0.0204 \times \text{Loan to Value Ratio} + 0.4629 \times \text{Not First Home Buyer} - 0.2328 \times \text{Owner Occupied} \\ & - 0.2644 \times \text{Loan for Purchase Home} + 0.2915 \times \text{Loan for Cash-out} \end{aligned}$$

The data is plugged into the model, and deciled ranked to calculate the model KS, which is 41. Details are shown in Table 9.

Table 9. KS of the Base Model (60% data of 2005 to 2010)

No. Accts	% Accts	No. Delinquent Accts	No. Current Accts	Cumulative % of Delinquent Accts	Cumulative % of Current Accts	KS
17,689	10.00%	8741	8,948	29.12%	6.09%	23.03%
17,689	20.00%	5869	11,820	48.68%	14.14%	34.54%
17,689	30.00%	4312	13,377	63.04%	23.25%	39.80%
17,690	40.00%	3222	14,468	73.78%	33.10%	40.68%
17,688	50.00%	2337	15,351	81.57%	43.55%	38.02%
17,690	60.00%	1822	15,868	87.64%	54.35%	33.28%
17,690	70.00%	1381	16,309	92.24%	65.46%	26.78%
17,688	80.00%	1030	16,658	95.67%	76.80%	18.87%
17,690	90.00%	764	16,926	98.21%	88.32%	9.89%
17,689	100.00%	536	17,153	100.00%	100.00%	0.00%
176,892		30,014	146,878			

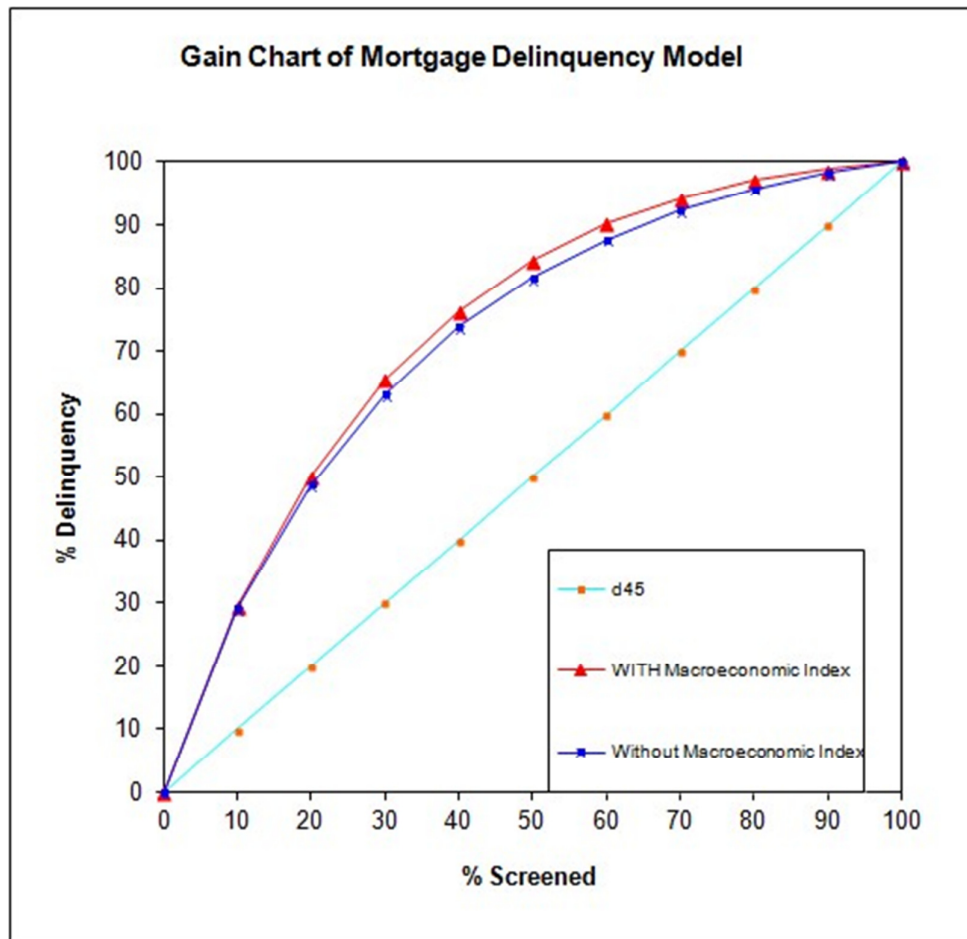
Through correlation analysis, it is indicated that unemployment rate and consumer price index are highly correlated, and only one of them is kept in the model. Therefore, unemployment, GDP and inflation rate are added into the predictive model. The KS of the improved model is 44. Compared with the base model, of which KS is 41, addition of macroeconomic indexes can improve the predictive power of the model. The gain charts of the base model and the improved model are shown in Figure 2.

$$\begin{aligned} \text{Predicted logit of delinquency} = & 8.1187 - 0.01316 \times \text{FICO Score} + 0.0163 \times \text{Debt to Income Ratio} \\ & + 0.0180 \times \text{Loan to Value Ratio} - 0.2745 \times \text{Missing First Home Purchase} - 0.2180 \times \text{Owner Occupied} + \\ & 0.2169 \times \text{Purchase for Investment} - 0.3267 \times \text{Loan for Purchase Home} + 0.1756 \times \text{Loan for Cash-out} - \\ & 0.3128 \times \text{unemployment} - 0.0179 \times \text{Inflation Rate} \end{aligned}$$

- Unemployment rate may decrease the probability of delinquency, this is because there is a delay of unemployment effect on the mortgage delinquency. In this model, 2005 to 2010 data are used, and the effect of delay may not be observed.
- Inflation rate may decrease the probability of delinquency.
- GDP is not a significant factor in predicting delinquency.

No. Accts	% Accts	No. Delinquent Accts	No. Current Accts	Cumulative % of Delinquent Accts	Cumulative % of Current Accts	KS
17,689	10.00%	8874	8,815	29.57%	6.00%	23.56%
17,689	20.00%	6173	11,516	50.13%	13.84%	36.29%
17,689	30.00%	4605	13,084	65.48%	22.75%	42.73%
17,688	40.00%	3276	14,412	76.39%	32.56%	43.83%
17,691	50.00%	2396	15,295	84.37%	42.98%	41.40%
17,689	60.00%	1745	15,944	90.19%	53.83%	36.36%
17,690	70.00%	1173	16,517	94.10%	65.08%	29.02%
17,689	80.00%	908	16,781	97.12%	76.50%	20.62%
17,689	90.00%	503	17,186	98.80%	88.20%	10.59%
17,689	100.00%	361	17,328	100.00%	100.00%	0.00%
176,892		30,014	146,878			

Figure 2. Comparison of the Gain Chart of the Base Model and the Improved Model



X axis - Screened accounts (%) Y axis - delinquent accounts (%)

5.2 Validation of the improved model (with addition of macroeconomic indexes)

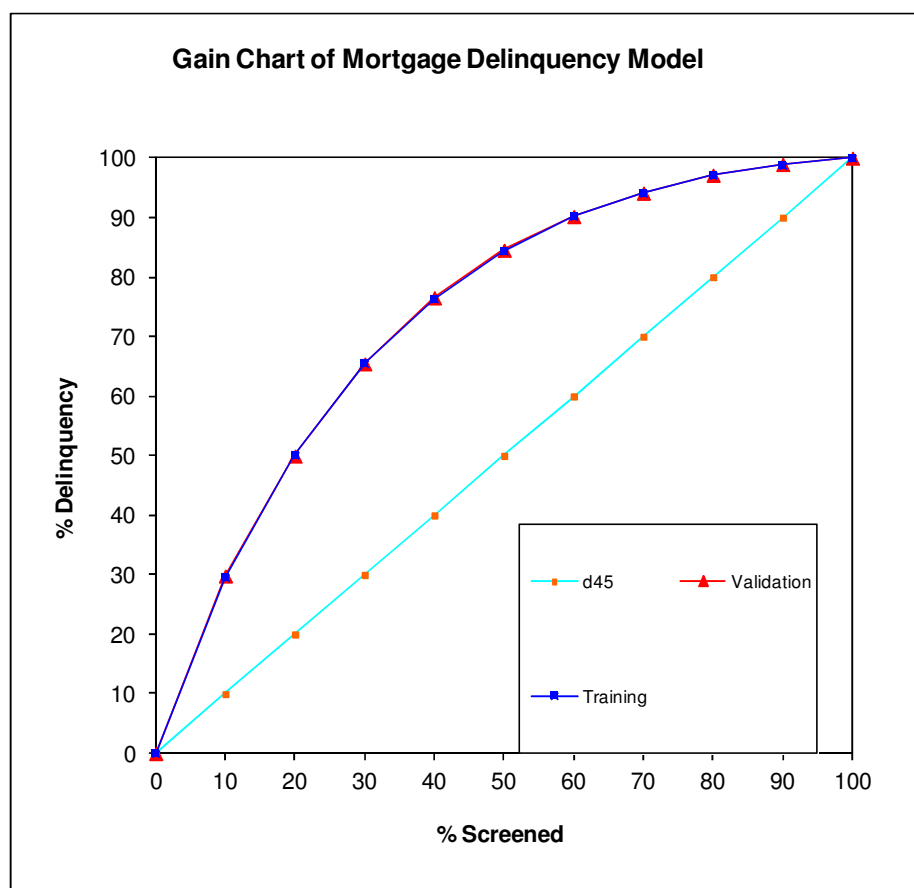
40% of the raw data is plugged into the model, and KS is calculated. The KS of the validation model is 44, very close to the KS of model development. The details are shown in Table 11.

The gain charts of the improved model and validation are shown in Figure 3. It can be seen that the KS of the model development and validation are very close to each other, indicating the model is stable.

Table 11. KS of Validation of the Improved Model (40% 2005-2010 data and the macroeconomic indexes)

No. Accts	% Accts	No. Delinquent Accts	No. Current Accts	Cumulative % of Delinquent Accts	Cumulative % of Current Accts	KS
11,792	10.00%	5953	5,839	29.81%	5.96%	23.85%
11,793	20.00%	4023	7,770	49.95%	13.89%	36.06%
11,793	30.00%	3093	8,700	65.44%	22.77%	42.67%
11,793	40.00%	2218	9,575	76.55%	32.55%	44.00%
11,792	50.00%	1595	10,197	84.54%	42.96%	41.58%
11,793	60.00%	1133	10,660	90.21%	53.84%	36.37%
11,793	70.00%	784	11,009	94.14%	65.08%	29.06%
11,793	80.00%	599	11,194	97.14%	76.51%	20.63%
11,793	90.00%	364	11,429	98.96%	88.17%	10.78%
11,792	100.00%	208	11,584	100.00%	100.00%	0.00%
117,927		19,970	97,957			

Figure 3. Comparison of the Gain Chart of the Improved Model and Validation



X axis - Screened accounts (%) Y axis - delinquent accounts (%)

6. Conclusion

In this project, mortgage initiation and performance data of 2005 to 2010 are analyzed in order to develop a predictive model to predict the probability of delinquency. Through univariate analysis, the data is cleaned up, and through bivariate analysis, the variables with strong predictive power are detected.

The project is divided into two parts. In the first part, the analysis data of 2005 are split into 2 parts, 60% for model development, and 40% for in-time model validation. The KS of model development is 31, and the KS for in-time validation is 31, indicating the model is stable. In addition, the model is further validation by out-of-time validation, which uses 40% of 2006 data, and KS is 33. This indicates the model is still stable and robust.

In the second part, the model is improved by addition of macroeconomic economic indexes, including GDP, consumer price index, unemployment rate, inflation rate, etc. The data of 2005 to 2010 is used for model development and validation. Compared with the base model (without microeconomic variables), KS is increased from 41 to 44, indicating that the macroeconomic variables can be used to improve the separation power of the model, and make the prediction more accurate.

This model can be implemented by financial institutions to detect the delinquent accounts in early stage. For future study, more variables that may have predictive power to delinquency will be added to the model, such as personal asset, employment status, marital status, etc. In addition, some new macroeconomic variables can also be added into the model, such as consumer confidence index, oil price, etc. These variables may increase the separation of the power and make the prediction more accurate.+

References

1. Borrillo CM, Boris NW. Mood disorders. In: Kliegman RM, Behrman RE, Jenson HB, Stanton BF, eds. *Nelson Textbook of Pediatrics*. 18th ed. Philadelphia, PA: Saunders Elsevier; 2007:Chap 25.
2. Refer to "<http://www.lib.wsc.ma.edu/webapa.htm>"
3. 2009 National YRBS Data Users Manual
4. Peng, C. J., Lee, K. L., Ingersoll, G. M. An Introduction to Logistic Regression Analysis and Reporting. *The Journal of Educational Research*, 96(1), 3-14.
5. Tabachnick, B., and Fidell, L. *Using Multivariate Statistics* (4th Ed.). Needham Heights, MA: Allyn & Bacon, 2001.
6. StatSoft, *Electronic Statistics Textbook*, <http://www.statsoft.com/textbook/stathome.html>.
7. Stokes, M., Davis, C. S. *Categorical Data Analysis Using the SAS System*, SAS Institute Inc., 1995.

EFFECT OF THE ENVIRONMENT OF THE INTERNAL WORK ON THE EXTENT OF THE OCCUPATIONAL EXHAUSTION: AN APPLIED STUDY ON SOME DEPARTMENTS OF THE PUBLIC SECTOR

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Abstract

This study aims at disclosing the effect of the environment of the internal work through participation in decision making, work pressure, social and incentives at the extent of work exhaustion dimensions in the personal accomplishment, non-humanitarianism and emotional exhaustion.

The study targeted the administrative at all higher, middle and lower levels at some departments of the public sector in Amman. The study had depended the descriptive analytical method with its both parts: the field and theoretical parts. To achieve objectives of the study (200) questionnaires consisted of (49) items had been distributed. (183) valid times were analyzed. The study showed a group of results, the most significant of which were:

- The visualizations of the examinees about the significance of the environment of internal work came at an average level, and so their visualizations about the extent of occupational exhaustion too.
- The study showed existence of moral effect of the internal work environment with its four dimensions on the extent of occupational exhaustion in some departments of the public sector, as the work pressure was the most influential.

The study recommended with the necessity of concern about the workers and origination an environment with strong social relations, so much filled up with types of incentives. It also recommended to prepare appropriate atmosphere to reduce work-pressure to prevent the occurrence of occupation exhaustion.

Key Words: Environment of Internal Work, Occupational Exhaustion, and Some Departments of the Public Sector.

Introduction:

Meeting the requirements of the human resources, working in the organization is considered one of its success and sustainability factors. Therefore the environment of work is considered the first of those factors, that refers to that the environment shares in raising the morales of employees and so strengthens their belongings and love of their organization resulting in increasing productivity and administrative interaction. Environment of internal work covers all factors that have impact on employees, because of

interaction between environment and employees. A smart organization is that pays a great care for the morale spirit of the employees, and this cannot be achieved except through the wages, incentives, and rewards, participation in decision-making, accreditation and social relations, the thing that shares in amending their behavior to become more giving and enjoying their work, where that positively affects the reputation of the organization.

Environment of work means all conditions surrounding the employee in place of work; the spatial or temporal, or moral and substantial conditions. The place of work might be suitable where the facilities and services needed by employees are available, thus they do their best at work, meanwhile when the place of work is bad and does not offer minimum of comfort requirements, employees will be suffering from lethargy, fewness of incentive and weakness of innovation, there is the time element, that the working hours might be long and tiresome so that workers spend long hours at work and hardly have enough time to rest and sleep at home, this affects their production negatively. When the work time and duration is convenient, employees will be stimulated to work and production. Finally there are substantial and unsubstantial factors that greatly contribute in providing the right environment for staff and employees, when the employer gives the employees bonus or an increase on the salary at the end of the year, that will be an incentive to them, and when he thanks them for their work orally or in writing that also will be a motivation for them. All these factors will greatly contribute to the improvement of working conditions and increase workers' activity. Improving the work environment is too important, because it can be the reason of work exhaustion.

Work exhaustion phenomenon among employees in public work is the result of psychology stress, so employees shall practice how to manage these stresses effectively. Work exhaustion is a contemporary common condition and sometimes is classified under the vital administrative problems indicating that the current organizations are in crisis that might to lead their collapse and failure.

It should be noted that the term (Burnout) "work exhaustion" was coined by the American psychologist (Herbert Freudenberger), he came up with the term as a result of treating patients attending his clinic in New York at the time, and he was the first to enter it into the academic use in (1974) after he had noticed that employees in human services occupations are more prone to work exhaustion, because of the daily dealings with large numbers of people and failing to achieve what is expected of them often (Ouat: 17).

But Christine Maslach, the professor of psychology at the American University of Berkley, is truly a leader in the study of developing work exhaustion concepts known as a "group of symptoms of mental and emotional exhaustion, depersonalization and a sense of dissatisfaction of personal accomplishment and professional performance".

(Burnout) Work exhaustion occurs when nature of the work does not match the nature of the individual, and the more variation increases the greater occupational exhaustion becomes Maslach indicated that the basis of occupational exhaustion conceals in a group of factors, the most important of them are: technological conditions and administrative philosophy of the organization of work. (Aleqtisadiah:www.aleqtisadiah.com).

Kelabi and Rasheed (2001:114) view that the phenomenon of burnout (work exhaustion) appears in individuals who are slow at work, characterized by idealism and commitment. Engineers and

secretaries show the symptoms as well. Work exhaustion phenomenon, according to recent studies appears in administrative occupation.

The researcher noticed during her previous administrative work that the psychological and social conditions of work in the institutions of the public sector are not free from this phenomenon.

For instance, the employee who works for an organization for a long period of time and remains in the same department without any progress or change will inevitably be prone to work exhaustion and a victim of routine and monotony of work repetition.

Therefore; it was necessary to draw attention to this phenomenon, especially since this period requires attention to the staff of public institutions and diligence to get rid of routine and murderous bureaucratic regulations and help the staff get rid of sagging administrative regulations and change policies, sent the spirit of renewal and vitality among employees, so as to spare them victims of work exhaustion.

To apply this study on some departments of the public sector in Amman, the capital of Jordan. Some of these departments has importance in the life of citizens. Their employees have to be well trained to achieve goals... with high quality and satisfaction reflected on their clients, due to the importance and responsibility of these departments. Their internal work should be developed and improved. The internal environment of work reflects the psychological and moral condition of the employees that in the end reflects these departments performance and competence in dealing with citizens and the ability of solving problems quickly and skillfully.

Problem of study:

No foundation of our governmental institutions is devoid from work pressure just like other institutions, as the traditional tools are still used in these institutions and they are affected with administrative slack and losing enthusiasm to what is new, so the environment of these institutions is directly responsible for the workers' status and vigor when they perform their duties. Work pressures have spawned many of the current defects of institutions, changing theirs and their workers conditions, hence the phenomenon of work exhaustion must be discussed, which is the widespread phenomenon affecting the human resources due to an unhealthy work environment, thus work exhaustion increases with the increase of the complexities of an unstable environment. The work environment is the place where employees share with colleagues all assets of the organization, whether tangible or intangible, and this partnership, including social relationships, values, work pressure and enhancements and incentives that will support the employee and strengthen his relationships with the institution or it makes him disinclined with work for that organization, hates his work and burned by a job and relationships that he does not want to keep, but is forced on them. The purpose of this study is to investigate the impact of the internal work environment on the degree of work exhaustion, thus the following questions were raised:-

- What is the nature of internal work environment that surrounds employees in some departments in the public sector.
- What is the prevalence of work exhaustion phenomenon among employees in the public sector.
- What is the impact of the internal work environment on work exhaustion among employees in the public sector.

Significance of study:

Studying the impact of internal work environment on the degree is theoretically important as it provides information about the phenomenon of work exhaustion, including suggesting solutions and guidance to prevent the spread of the phenomenon as this has a negative impact on public and private institutions.

The study practically seeks to inform official and stakeholders to determine the extent of this phenomenon and specify the causes and make recommendations based on the results of the research.

This study is important as it discusses a subject directly related to human resources, on which shoulders the organization stands since the beginning of the appointment, human resources also achieve the organization's goals, carry its culture and identity, store its knowledge, handle and transmit it, as this study draws links between the internal work environment where the employee works and interacts with, and its relation to work exhaustion, which is one of the important and rarely discussed in the field of administration to the knowledge of the researcher, because it was among the important topics of the specialty of education, psychology and sociology.

Objectives of the study:

This study links between two important variables; internal work environment and the phenomenon of work exhaustion. This study will achieve its objectives through the following goals:

- Determining the level of the phenomenon of work exhaustion in the institution of the public sector.
- Identity internal work environment in the institutions of the public sector.
- Identifying the impact of the internal environment of its elements on the degree of work exhaustion among employees of the public sector institutions.
- Make recommendations to prevent the emergence of work exhaustion among employees and take actions, if work exhaustion is found, to help employees get rid of it.

The Theoretical framework and previous studies

Internal work environment

The internal environment is the important issues that contribute to provide the proper work atmosphere for employees pioneers of modern thought-researchers noticed the concept of the environment and realized its impact on employees and their behavior in the organization, especially in the non-profit organizations , in which employees bear the responsibility of maintaining the organization with its culture, knowledge and reputation. Qaryouti (2009: 303) likens the internal work environment to the air surrounding us.

Some believe that the internal environment includes several elements, such as organizational structure, human and functional behavior, the degree of sense of responsibility, prevailing relationships within the organization, discretion, the ability to withstand risks, the degree of belonging to the organization, rewards systems, the degree of support at work (Sherbini 1997, 230).

Viewing the literature of the study the researcher found that there are an agreed- on set of elements such

as:

The type of technology used in the organization, regulations and instructions, social relations, the incentives system, the work pressure, leadership style, methods of communications, roles conflict, ambiguity of roles (Qaryouti 303), the researcher has chosen among those elements the ones that suit her study. Elements are to be detailed later.

Participation in decision- making:

Decision-making process occupies an important place in the activities of the organizations as it contributes to solving the problems and issues that may hinder the work of the organization, and is one of the most important functions of the organization's manager (Tarawneh, 2014).

Participation in decision-making is an important source of expressing workers' ideas and support them morally, that makes them feel their worth and their humanity, helps them strive to improve the working methods and reduce conflicts, train them on ways of brainstorming to extract new ideas, contribute to unlock potentials, it also affects their work satisfaction with the work, motivation and raise productivity (Herzu-Allah, 2007: 35).

Advantages of participation in decision-making (Herzu-Allah, 2007: 37-38)

There are many advantages of participation in decision-making in the organization, which positively reflect on systems and officials, those advantages are: first make employees feel their importance that makes them sense their importance and that they're effective valuable individuals. Second: involving workers in decision prevents their resistance to change, third: improves the efficiency of work where observations showed that production rates increase and then employees satisfyingly accept responsibilities, improve the quality of decisions because when notes are made on decisions, possible errors could be predicted early, ensure the assistant in leadership development at the lower levels. In addition, shared decisions are more palatable and are significantly accepted by workers, this raises their morale. Another advantage of Involving employees in decision-making allows the discovery of talents and abilities, lastly: shared decisions make work atmosphere open, especially between senior management and other levels.

Social relations:

Al-Amyan (2013) divides groups within the organization into two groups: formal and informal. Formal groups are those established on the basis of the job within the formal structure, work teams, which are responsible for a specific task, the committees. Informal groups, on the other hand, are those which form as a result of social relations, because of friendship ties, personal connections and affiliation to a particular social class. Social relations are considered to be of a significant effect on the organization in many ways (Mughrabi 2004), including: informal communications offer a change to get to know the real feelings and attitudes of workers, it is also a way to spread facts and information they want by passing it through unofficial ways. Besides, informal groups are characterized by a degree of cohesion and coherence so that they give higher productivity. Thus it is clear that social relations between individual saturate the psychological and social needs between employers and employees individuals saturate the psychological and social needs between employers and employees and between employees themselves,

such relationships bestow an atmosphere of cordiality and harmony on the internal work environment, so that it is an incentive for action, cooperation and harmony, thus increases the loyalty of the organization. Examining social relations within the organization is a vital and important dimension in the organization, because the recognition of how important the nature of these relations reflects the extent of employees achievements and psychological health and thus their production. These relations, with their advantages and disadvantages, are important and the basis of the internal work environment, especially as they are related to the human element, which is the intellectual source and the prime operator in most administrative functions.

Lack of positive reinforcement

Financial and moral incentives

Incentives are what the senior management plan to providing workers of financial rewards and encouragement aiming at encouraging them and motivating them to activate their performance to reach the summit of productivity. It is considered among the administrative elements of the internal work environment that help raise the quality of performance and productivity, if it was applied legally with justice to meet the needs and requirements in the organization.

Qaryouti (2009) says that incentives meant to encourage or stimulate certain individuals to increase production, example of incentives; financial reward, prize or gift all those fall under individual incentives. However, collective incentives aim at encouraging cooperation between workers and promote team spirit, thus each individual in the team will be careful not to conflict with colleagues so that their work will not be affected. Examples of collective incentive, prizes awarded to a branch of the bank, a department of a Ministry or a college of a university. Administration can offer the two types of incentives. There are several types of incentives such as giving workers sharing the profit.

Incentives are classified into types:

- Financial incentives: such as remuneration depending on number of units produced, plans for the sharing profits, incentives on the basis of acquired skills.
- Moral incentives: are very important. Examples include involving workers in setting goals, such as Management by Objectives, recognizing the efforts of the workers like praising workers, moral prizes might include naming the ideal employee, giving paid recreation vacations, sending thank you letters to employees or giving decorations.

Before giving incentives, motivations of individuals and groups should be examined, as some groups or individuals do not find financial incentives as motives, but prefer being given more powers at work, or being invited to participate in conferences.

Work pressure

The environment in which we live is full of stimuli which have, not doubt, affected the individual not only at home and school but also at work. These pressures had their negative impact on the individual making him live in a state of anxiety, emotion and instability reflected in his duties at work, as well as his relationship with colleagues in the organization and then affects his health and body. This topic has become one of most important fields of research for many of the researchers in the administrative and

organizational thought; however, these researches remained theoretical studies without being applied. For several reasons the most important of which are: the diversity and overlap of the factors causing pressure, another reason is that researchers do not agree on a specific concept for the work pressure; this makes the researcher far from the subject and makes him adopt a concept consistent with his personal convictions. (Al-Amyan, 2013: 159-162).

Jadallah (2002: 23-24) sees that the pressure is a response to three stages: alarm stage or warning, the resistance stage, and the stage of exhaustion at work.

Maher (2011: 384-385) says that there are many causes of work pressures including: the difficulty of the work, problems related to submission to the authority, incompatibility between individual's character and the regulation, competition for resources and conflict on roles and these roles lack clarity.

Work exhaustion (burnout):

It is a common disorder nowadays, and is one of the things that captured the researchers' thinking due to its negative impacts on the victim, the workplace and colleagues. Definitions of the term "work exhaustion" have abounded, although they are all based on the fact that it is caused by stress. Rjuat Metwally (2005) reported that interest in the psychological exhaustion started in 1960 in the stage of enlightenment, the reason was that some researchers in the field of industry noticed a decline in the performance of some of the workers and other negative behavior including absence from work for long periods. Then in the seventies numerous articles addressed psychological exhaustion, these articles focused on humanitarian workers, as described by the psychiatrist Freudenberger as a negative phenomenon among professional who work in the drug addicts' clinic due to excessive pressure on the workers there, then Maslach (1979), a researcher in social psychology, noted that psychological exhaustion affects individuals with overload and constant pressure that causes the individual lose feelings toward customers, she related that to mental illness and disorder.

Thus we can conclude that the perception was that exhaustion affects workers in health care, as they are exposed to a high degree of pressure, because they deal with patients, and sometimes witness the death of some patients, in addition to the conflicts with colleagues and managers.

Then the concept of exhaustion evolved in the early eighties of the twentieth century and became more systematic, where a list was developed for measuring exhaustion by Maslach and her student Susan Jackson (1981), the list they developed was the first attempt to measure the exhaustion in the field of health care, then this tool has been developed in (1986) to measure the exhaustion for those working in the field of social professions to measure three dimensions: emotional exhaustion, depersonalization, and the lack of a sense of personal accomplishment.

Herbert Freudenberger, the American psychoanalyst who of the term exhaustion to the academic field in (1974), defined the term as excessive in the individual work to be able to meet the work requirements exceeding his capacity.

Maslach defined "exhaustion" as a psychological stress, emotional exhaustion, depersonalization, and a sense of personal dissatisfaction of personal accomplishments and professional performance.

Rashdan (1995: 24) defined the term as a state of exhaustion affects the stored mental energy of the individual which leads to a status of psychological imbalance (disorder) that develops as a result of severe

psychological stress caused by workload and requirements. This case is negatively reflected on customers and the workplace.

Symptoms of exhaustion occurrence

It can be inferred of the following symptoms:

- A sense of psychological and physical exhaustion leading to the loss of psychic or moral energy, lack of vitality and activity, lack of sense of self-esteem, negative sense toward work, loss of motivation, negative outlook/ perspective of self and the sense of hopelessness and failure.
- Perform work routinely, resistance to change and development, the loss of innovation and the spirit of creativity, lack of motivation to go to work, weak performance of work, a feeling of fatigue and exhaustion, avoiding meeting and communicating with others, in addition to the irrational sense of guilt and remorse (Hayek, 2000: P. 20).

Theories explaining exhaustion

These psychological theories have dealt with the concept of exhaustion through their public frames, where it was linked to pressures of the work and these theories are:

Freudian theory (psychoanalytic theory)

The psychoanalytic theory interpreted exhaustion as the product of the individual pressure on ego for a long time to get the job duties done, causing a great effort and the inability to cope with these pressures in a healthy way. It is the result of the process of repression for abstaining from desires that are unacceptable or even conflicting with personality components so that the conflict between those components end up in its extreme stages to exhaustion or it is a result of the loss of ego its role model that leads to a gap between the ego and the other to whom it was attached, and that the individual loses the support he was waiting for. The theory suggests a remedy for the state of exhaustion which is emotional venting.

Behavioral theory

This theory explains exhaustion as an abnormal behavior the individual learned as a result of inappropriate environmental conditions, the school teacher, for example, may face lack of teaching aids, suffer from uncooperative colleagues and manager, students who lack the motivation to learn, in addition to the pressure of having to provide for his family (wife and children) with the rising cost of living, all this is lead to the stage of exhaustion. The theory suggests techniques to combat exhaustion including: technique of reinforcement and increase support to the individual and self-regulation through relaxation and taking warm baths.

Existential theory

Existential theory focuses on the interpretation of exhaustion on the lack of existence in the life of the individual, as the loss of meaning of life leads to suffering and existential emptiness that makes him feel the insignificance of his life, and deprive him of the esteem which helps him continue his life, leading to not achieving his goal, this makes him prone to exhaustion. So the relationship between exhaustion and

loss of sensation of one's significance is mutual as exhaustion leads to the loss of meaning of a person's life, and the loss of meaning leads to exhaustion.

These are the theories that addressed the subject of exhaustion each of its point of view. Knowing that these three opinions can be combined: as the exhaustion is psychological pressure resulted from the interaction between the individual attributes and qualities with the surrounding environment, if the surrounding environment was not suitable, this causes psychological exhaustion that definitely causes exhaustion. This may lead the individual to make unwise decisions like quitting his job and this is reflected negatively on the whole society (Abu Masoud,2010: 19-20).

Dimensions of exhaustion

1. Emotional exhaustion: the employee's loss of self-sense, loss of offering customer care and his sense that these emotional sources are depleted, this exhaustion is usually accompanied by frustration and then the individual loses the sense of his ability to bestow or to perform the responsibilities entrusted to him. Among those feelings also is the sense of dread and awe when thinking of going to work every morning. The state of emotional exhaustion is caused by the large number of customer's demands.

2. Feelings of low personal accomplishment

When the employee assesses himself and feels like a failure and how sense of competence in performing his job and his interaction with others, this happens when the employee feels the loss of personal commitment in labor relations, and because of his failure to continue delivering positive results, this leads to the emergence of stress and depression, and at this stage he believes that his efforts will not yield any effective results and successes so he gives up trying.

3. Depersonalization in customer handling

It is when employees lose the personal character by losing the humane or personal sense in dealing with customers, so employees stop treating them as people but as objects. In this case the employee is characterized with cruelty, pessimism, frequent criticism and blame of colleagues and clients, he is characterized also so frosty, apathetic and does not pay attention to customer care, but tends to go in prolonged rests, and make long telephone calls.

The causes of exhaustion

Zyoud (2002: 95) says that the causes of exhaustion are usually related to work environment with all of its conditions that cause the feelings of pressure, frustration and oppression for long periods of time, in addition to the fact that a few of bonuses are given to employees. These reasons are:

- Personal working relationships, the burden, ambiguity and conflicts on the role, clerical work, lack of rewards and support, poor feedback about the efficiency or inefficiency of performance, wages and incentives systems, increasing bureaucratic tasks, lack of employees' willing to manage work pressure, supervision, boredom at work, personal characteristics of the individual, irritable customers and clients, vague or arbitrary policies, ineffective communication systems and stringent and rigidity of the regulation, Mohammed (2008:8) adds that there are personal reasons

of work exhaustion, including that the most committed- to work and sincere employee is the most vulnerable to burnout. There are also professional reasons as the individual's career level plays an important role in composition of his personality, as it makes him feel valued, respected and independent so if it lacks enthusiasm and excitement and is overshadowed by the supervision, it will inevitably lead to work exhaustion which will lead to failure of achieving personal needs and then he will not feel job satisfaction which will lead to work exhaustion.

Previous studies

- Ben Rahmon, Seham 2014, "Internal work environment and its impact on job performance" a study on a sample of administrators of faculties and institutes of the University of Batna-Department of Sociology.

The study aims at determining the impact of the internal work environment and its components on the job performance of the administrators of colleges and institutes. Descriptive approach was used. Community of study consisted of 529 administrators of the university's colleges and institutes. The most important results of the study were: the internal work environment meets its administrative elements positively and effectively (leadership, rules and regulations, specialization administrative control, administrative contact, official and informal relationships and the system of incentives and rewards), internal work environment also meets its physical elements (lightening heating, ventilation and office equipment). Results also showed that leadership style is not lawless, and showed that the rules and regulations are not clear and inflexible, there are inadequacy between the respondents' specializations and their jobs that reflected their negative performance. Administrative control is weak. Regarding formal and informal relationships, they are relatively good, while the incentive system is not satisfactory. The study recommended the following: The need to provide a renewed and sophisticated administrative work environment, to explain and clarify the regulations and instructions through pamphlets, to put the right man in the right place, to provide an effective communication system.

- As-Salkhi, Mahmoud (2013) burnout (exhaustion) levels among Islamic education teachers working at private schools in the city of Amman, in light of some variables.

The study aimed at identifying the burnout levels among teachers of Islamic education working at private schools in Amman, within the following variables (sex, qualification, years of experience, monthly income, age marital status and the educational taught by the teacher). The study was applied on random sample of (166) male and female teachers. The researcher used Maslach Burnout Inventory (MBI) of psychological burnout. The study results showed that burnout level among teachers of Islamic education was moderate according to Maslach standards on the dimensions of emotional exhaustion and depersonalization, while burnout level was high on the dimension of lack of personal accomplishment, the results also showed a significant difference of male teachers' burnout level on the emotional exhaustion dimension, and no statistically significant differences on the variables of age and social status. Results showed that highly qualified teachers and teachers with long years of experience and high

income are more prone to burnout. Results also showed statistically significant differences depending on the variable of the educational stage taught by the teacher in favor of the primary stage.

The most important recommendations of the study are: develop prevention plans by the Directorate of Special Education in the capital to curb the spread of the phenomenon of burnout among teachers of Islamic education.

Al-Qahtani, Saad (2012) the internal work environment's relationship to the morale of workers at the Passport Institute in Riyadh- Naif Arab University for Security Sciences- Department of Administrative Sciences

The purpose of the study is to identify the relationship between the internal work environment and the morale of workers at Passport Institute in Riyadh, 147 complete-data questionnaires were collected. For the purposes of this study, the researcher used the descriptive approach with both aspects of documentary, and introduction to the social survey. The most important of the study results are: there are good human relations and restraint between colleagues, that there were no statistically significant differences in the sample of population members' perspective about the internal work environment characteristics depending on the variable of rank, years of experience and number of training courses.

The most important recommendations of the study are: the need to transfer the current headquarters to a suitable place, increasing moral incentives, diversifying training programs and increasing the rate of participation in decision-making.

- Al-Jaml, Amani (2012), Job Burnout among women working in the Palestinian National Authority Institutions in the Gaza Strip

The study aimed at identifying the extent of the phenomenon of Job Burnout among women working in the Palestinian Authority's institutions and the impact of the female workers in the study variables (work pressure, leadership style, career recycling, participation in making supportive social decisions) on the degree of Job Burnout among female workers and identify the extent of the existence of statistically significant differences among the sample's answers that rely on personal variables. The study population consisted of all women in the institution of power, who were (9773) female workers and the study was applied on 417 of them. To achieve the objectives of the study, the questionnaire was divided into three axes- personal data- burnout scale- burnout sources. The study results showed that the female workers do not suffer from any of the Job Burnout dimensions (emotional exhaustion, depersonalization, and personal accomplishment), results showed also a positive relationship between the degree of the three dimensions burnout and each of the following variables: work pressure, leadership style, participation in decision-making and social support.

The study recommended the need to provide training programs for the working women to figure out ways to deal with Job Burnout and develop guidance programs to manage work pressure, and the need to provide social support from family and colleagues.

- Abu Musa, Anwar, 2012. “Job Burnout impact on the employees performance, Case Study on the administrative staff in the Reconstruction Association for Development and Rehabilitation (Emaar)”- Palestine, Khan Younis

The study aims at identifying the degree of Job Burnout among administration in the Reconstruction Association for Development and Rehabilitation- Palestine, Khan Younis and the impact of Job Burnout on the performance of employees, and to reveal the relationship between the phenomenon of Job Burnout and some demographic variables (age, sex, marital status, experience and educational level). Maslach Burnout Inventory (MBI) of psychological burnout was applied on a sample of (50) employees in the Reconstruction Association. Study results showed the degree of Job burnout among all the respondents is medium on the emotional exhaustion and depersonalization dimensions, on personal accomplishment dimension the degree of job burnout was low, there are differences between the respondents on the variables of sex in favor of female workers where their degree of job burnout is higher than that of males. There is no differences between the respondents on the variable of number of years of service. The most important recommendations of the study are: emphasizing on the religious dimension and the need of patience, easing the burden on the workers, put the right man in the right place, holding training courses, redefine work hours.

- Jarrar, Sanabel (2011),. The relationship between earnestness at work and burnout among public secondary schools’ principals in the provinces of northern West Bank.

The study aimed at determining the impact of each of the variables (sex, educational qualification, experience, salary, location for the school, the number of students, and BA specialization) on the burnout level among school principals.

The community of study consisted of all public secondary schools’ principals in the northern West Bank’s (N=338) principals, and the study was applied on (n=121) of them.

The most important results of the study: the degree of earnestness at work was high, the degree of job burnout was medium on the emotional exhaustion dimension of and low on personal accomplishment dimension, a medium degree on depersonalization toward others. Results also showed that there is a statistically significant correlation between the levels of the concept of earnestness at work: (challenge and change commitment and involvement, command and control) and the levels of the concept of emotional burnout with its dimensions (emotional exhaustion, depersonalization, and personal accomplishment).

The study recommended: easing the work burden on managers by providing a device that assists the manager in facilitating his work, improve the financial and moral reward system to improve the conditions of managers.

- Abu Asal, Khalil Awad (2011) the moral climate and its relationship to burnout and organizational commitment among the heads of departments in the departments of Education- Jordan

The study aimed at investigating the relationship between the moral climate patterns, burnout and organizational commitment of the heads of departments in 40 of the departments of Education in Jordan (north, center and south regions). 400 questionnaires were distributed to the sample study, which consisted of males only.

The most important study results were: the level of the prevailing moral climate patterns from the viewpoint of heads of departments in general was medium. The degree of burnout was high in the areas of emotional exhaustion and depersonalization. The organizational commitment degree among the sample was medium. The results also show a statistically significant negative relationship between Job burnout and moral climate patterns prevailing in their directorates, and that there is a positive relationship between organizational commitment and the prevailing moral climate patterns, and there were no statistically significant differences in burnout degrees among heads of departments differences on qualification and years of experience variables.

- Abu Masoud, Samaher (2010) Job Burnout phenomenon of the administrative staff at the Ministry of Education and Higher Education in the Gaza Strip causes and how to treat it.

The study aimed at identifying in prevalence of work exhaustion and a number of demographic factors (such as age, salary, sex, job title, marital status). The community of study consisted of (N=821) employees. The researcher used Maslach Burnout Inventory (MBI) with some modifications.

Results of study included: the workers in general suffer from an average level of exhaustion on its two dimensions (emotional exhaustion and depersonalization), while the level of it was low on the dimension of (personal accomplishment). There was a positive relationship between lack of social relationship, work pressure, the conflict of values and the level of work exhaustion attributed to the (marital status, age, educational qualification, years of service, administrative level), and there was an inverse relationship between the powers of the work and the lack of promotion and the degree of work exhaustion.

The study recommended the need to embrace religious values by colleagues in dealing with each other, the need to break the routine and provide entertainment and incentives for workers by decision-makers so as to mitigate the spread of the phenomenon.

- Zahrani, Nawal (2008), the relationship between Burnout and some personality traits among female workers with persons of special needs, Umm Al Qura University- Department of Psychology

The study aimed at finding out the relationship between exhaustion and some personal traits (emotional stability, sociality, control and responsibility) and find out if there are differences between the mean scores of the exhaustion levels as a result of differences in demographic variables (years of experience, age, qualification, marital status). The sample of study consisted of 150 female workers. Maslach Burnout Inventory (MBI) in addition to a number of statistical analyzes were applied.

The results of study were: there is statistically significant correlation between exhaustion and some personality traits, and there is an inverse correlation between exhaustion and the responsibility characteristic.

For the differences, results showed that there are differences between the high degrees and low degrees of

burnout on the emotional stability trait, and there are differences in favor of women with working experience of 11-15 years, and differences on the following variables: age, social status and educational qualification.

The study recommended the need to develop outreach programs to help in the selection of female workers according to professional and personal standards, design and the need to develop preventive programs to help female workers combat the problem of burnout.

Studies in English

- Thomas, M & et al, (2014) “Correlates of Job Burnout among Human Services Workers: Implications for Workforce Retention” California

The study aimed at examining the relationship between exhaustion on humanitarian service staff in central California. The researchers used a model composed of 13 elements of exhaustion that have been distributed to (n=288).

Results showed that there is a medium to high average level of exhaustion that on the elements of work pressure, age, sex and educational level and experience. The results of statistical analysis showed that the work pressure was the most influential element on exhaustion among staff.

The study recommended: the need to develop creative ways to manage the work pressure, reconsider the laws and regulations in line with the new economic situation of the sector of the workers in humanitarian services sector, support workers with exhaustion by developing strategies including work teams, support teams, provide breaks for workers, reschedule work hours to make the work flexible and identify time management skills.

- Sowmya & Panchanatham, (2011), “Job Burnout: An outcome of Organization Politics in Banking Sector” In India

The study aimed at finding out the main reasons that cause exhaustion as outputs of regulatory policies, and work to make suggestions to mitigate this phenomenon, the study was applied on workers in the banking sector in the Indian city of Chennai.

The most important study result were: the workers in this sector, whether public or private feel completely exhausted, and they are bound to obligations and responsibilities related to the work environment including arduous tasks, they are also emotionally exhausted and they suffer from work stress a result of dealing with the public. One of the most important results of this study was that exhaustion among younger workers is significantly high.

As for the most important recommendations of the study: the need to working on solving problems in a short time to prevent stress and anxiety that can raise exhaustions levels among workers.

- Bayram, & et al. (2010) “Burnout, Vigor and Job Satisfaction among Academic Staff” in Turkey

The study aimed at identifying the degree of exhaustion and vigor among the academic staff and its

relationship with job satisfaction, depression, anxiety and stress. For the purposes of this study, a questionnaire form was distributed to academic workers in the Turkish institutions.

Among the most important of the study results were: exhaustion phenomenon is wide spread among academics. The most common dimension was the emotional exhaustion. Female workers are more prone to exhaustion than males. Depression is directly related to exhaustion, while anxiety and stress are linked indirectly to exhaustion through the influence of depression.

The most important recommendations of the study were: the need to providing breaks for academics through organizing the course and the need to provide means of entertainment within universities, providing a suitable environment for communication and social life.

- Doganer & Alparslan (2009) “Relationship between levels of burnout of midwives who work in Sivas, Turkey province center and identified sociodemographic characteristics”

This exploratory study aimed at identifying the relationship between some of the demographic variables and levels of exhaustion among midwives in Sivas Eastern Turkey province center. The community of study consisted of (N=257) midwives, the study was applied on a sample of (n=147), the rest of the midwives (110) refused to participate in the study. The research data were collected on a 28-item questionnaire prepared.

The study results included: some socio-demographic characteristics of midwives (personal characteristics, place of employment, work schedule, length of employment, school from which graduated) has an impact on exhaustion. Age, marital status, number of children, work area and work schedule were not found to have an impact on the midwives exhaustion.

The most important recommendations of study were: young people need to be kept informed when they make their choice of profession, shift work systems may be arranged to meet ergonomic criteria and the personal of midwives. In addition, occupational health education should be given to midwives to improve their professional skills.

Operational definition

Job Burnout (work exhaustion):

A state of emotional and physical exhaustion, as a result of suffering from pressures, that is, it refers to the negative changes in the relationships and attitude of the individual towards others, because of the emotional and psychological excessive requirements and that will be measured in the resolution (1-21).

Emotional Exhaustion

Physical and emotional depletion and a feeling of being exhausted in terms of emotion, mind and conscience, leading to deficits, anxiety and nervousness in addition to low morale, and he felt that he had nothing to offer the Daot work and this is caused by the depletion of the emotional energy that will be measured in resolution (1-9).

Depersonalization is the detachment from the personal properties that is lack of interest of work and others which have a negative and cynical attitudes, dealing with colleagues as objects positions and practicing cruelly with negative feelings, which will be measured in the questionnaire (1-14).

Lack of Personal Accomplishment

The employee assesses himself in a negative way and does not feel that he is not competent and not capable of achievement, feels that he is incompetence to deal with employees and customers, suffer from a lack of ability to cope with problems which he faces at work, and then start complaining of work (15-21).

Work environment: is everything that surrounds the organization whether tangible or intangible assets, including: organizational structure, technology, buildings, the culture of the organization, work pressure, leadership, work clocks, positive reinforcement, social relations, decision-making, participation of workers and he leadership style, which will be measured by paragraphs (22-49).

Participation in decision-making: means the freedom granted to employees to make decisions, freedom to express opinions and freedom in the performance of the tasks assigned to the employee. (22-26)

Social relations: are the relationships that rise among the workers themselves and managers. These relationships are employees of belonging and provide help to solve problems and exchange views, visits and make the workplace, a place for expression of cooperation and love, which will be measured to paragraphs (27-34).

Work pressure: is everything that surrounds the individual within the organization and forces him to interact with it, which might cause him oppression, emotion and instability, which might be threats or opportunities for him. These will be measured in paragraphs (35-40).

Lack of positive reinforcement (incentives): reinforcement means the moral and financial support in exchange for efforts and perseverance of the employee, incentives may include: promotion, bonus, a thank you book, an increase on the salary, or training courses (41-49).

Hypothesis

The first major null Hypothesis

- There is no statistically significant effect of the internal work environment dimensions (participation in decision-making, social relations, work pressure and incentives) on the level of work exhaustion dimensions (emotional exhaustion, depersonalization and lack of sense of personal accomplishment) among workers in department of the public sector. This hypothesis can be subdivided into the following sub-hypothesis:

- **First sub-hypothesis**: There is no statistically significant effect of the internal work environment on the degree of emotional exhaustion among workers in departments of the public sector.
- **Second sub-hypothesis**: There is no statistically significant effect of the internal work environment on the degree of depersonalization among workers in the departments of the public sector.
- **Third sub-hypothesis**: There is no statistically significant effect of the work environment on the degree of feeling of personal accomplishment among the administrative staff in departments of the public sector.

- **Second major null hypothesis**: There are no statistically significant differences between the respondents' answers about the degree of the three dimensions of work exhaustion among workers in

departments of the public sector.

The study model

Independent variable

Internal environment

- Work stress
- Incentives
- Social relationships
- Participation in Decision-making

Dependent variable

Work exhaustion

- Emotional stress
- Depersonalization
- Personal accomplishment

Demographic variables

Age

Qualification

Years of experience

Social status

Occupation

Social type

Methodology of the study: previous studies and theoretical research that enhance the theoretical framework upon which the study have been reviewed, then the information was collected from the field by a questionnaire developed and analyzed based on a number of means and statistical tools for the purposes of this study in order to identify the impact of the internal work environment on the degree of work exhaustion among employees in the public sector.

Community of study: consisted of all administrative staff in the public sector (200) questionnaires were distributed among which (17) were excluded, leaving (183) valid questionnaires for analysis.

5.1. Description of the study sample characteristics

This section includes a description of identifiable and demographic characteristics of the study sample individuals, namely: (gender, age, educational qualification, years of experience, and career level). To describe the characteristics of the study sample, the following were found: duplicates and percentages of demographic variables for members of the study sample as follows:

Table (1) distribution of respondents on demographic variables

Variable	Category	Repetition (Sample size=183)	Percentage %
Type			
	Male	97	53.0%
	Female	86	47.0%
Age			
	30 years and less	50	
	31-40 years	62	33.9%
	41-50 years	57	31.1%
	51-60 years	14	7.7%
Qualification			
	High school or less	26	14.2%
	Intermediate Diploma	70	38.3%
	BA	62	33.9%
	Higher education	25	13.7%
Years of experience			
	5 years old or less	54	29.5%
	6-10 years	48	26.2%
	11-15 years	45	24.6%
	Other than 15 years	36	19.7%
Career level			
	Director General or assistant director	39	21.3
	Unit director or department director	30	16.4
	Department head	41	22.4
	Writer	73	39.9

It is shown in Table 1 that the percentages of males and females in the public sector Departments are approximate, where the percentage of males was (53.0%), while the percentage of females was (47.0%), and this shows the fairness of the selection in recruitment where the selection is based on meeting standards, not on the sex. The sample was classified also by age groups, where in the percentage of the category (51-60 years) was the lowest percentage (7.7%); this is due to the retirement system as following the Civil Service Bureau.

The medium-diploma and bachelor holders were the majority of the sample, where the intermediate diploma holders formed (38.3%) of the sample, while bachelor's degree holders were (33.9%) because these are the educational degrees required for requirement as the university graduate holds a bachelor's and college graduate degree holds a diploma degree.

We note also that the respondents were distributed on the experience categories in approximate ratios, where the category of experience (over 15 years) was the lowest, and this is consistent with the age groups. Finally, the function of (writer) is the largest proportion, which amounted to (39.9%), while the other job categories were of lower rates, and this is consistent with the administrative hierarchy of organizations, where the number of employees increases towards the base of the pyramid.

The study tool: the researcher used a questionnaire consists of two parts:

The first section: includes demographic variables (personality traits).

The second section: includes the areas of the study which consists of 49 items classified into two axes

The first axis: is the internal work environment, which is consisted of (28) items and measures four areas, namely: the work pressure, social relations, incentives and participation in decision-making.

The second axis: is work exhaustion scale which consisted of (21) items developed by Maslack and Jackson, known as Maslach Burnout Inventory (MBI), where the scale is divided into three dimensions (emotional exhaustion which consists of nine paragraphs – depersonalization which consists of five paragraphs- and personal accomplishments which consists of 7 paragraphs. Likert scale has been used to measure respondents' responses which are five points.

Test the reliability of study tool

The researcher tested the stability of the tool used to measure variables included in this study by using Cronbach Alpha Coefficient testing, where the result of the scale is statistically acceptable if the value of Cronbach's alpha is greater than (0.60) (Sekaran, 2006, 311), and the closer the value to 100% this indicates a higher degree of stability of the study tool, data in table (2).

Cronbach Alpha internal consistency Coefficient was measured to the variables of the study and to the dimensions and the study tool as a whole, to find out the consistency in the answers; and that, as in Table (2):

Table (2) internal consistency coefficient values

No.	Dimension	Alfa value
1	Emotional exhaustion (EE)	0.826
2	Depersonalization (D)	0.744
3	Personal accomplishment (PA)	0.753
4	Work exhaustion	0.865
5	Participation in decision-making	0.756
6	Social relations	0.722
7	Work pressure	0.818
8	Incentives	0.871
9	Work environment	0.912
All paragraphs		0.937

The results of reliability in Table (2) show that values of the internal consistency Cronbach's alpha coefficient of the paragraph of the study tool ranged between (0.722-0.912), the alpha value for all

paragraphs reached (0.937), this confirms the consistency between the paragraphs of the study tool, and its reliability and that it can be used for statistical analysis of the study, because all the values are greater than the conventional measure of the stability of (0.60).

Statistical treatment

Analysis of the study questions

Table (3) the arithmetic means, and standard deviations for the dimensions of work exhaustion, and comparison between them.

No.	Dimension	Mean	Standard deviation	Rank	Relative importance
1	EE*	3.504	0.755	2	Medium
2	D**	3.257	0.872	3	Medium
3	PA**	3.540	0.725	1	Medium
Work exhaustion		3.434	0.858		Medium

***EE: emotional exhaustion. **D: depersonalization. ***PA: Personal accomplishment.**

The results (Table 3) show that the level of work exhaustion scale in terms of the relative importance is medium with a mean (3.434) and standard deviation (0.585), the table also shows that the (personal accomplishment) dimension came in first place with an average (3.540) and standard deviation (.725), and medium relative importance, while the (depersonalization) dimension came in the latest rank with average (3.257) and standard deviation (0.872), and medium relative importance. General scale.		3.526	0.702	Medium
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Arithmetic means of the dimensions of the independent variable (work environment) and the comparison among its dimensions, as in the following table:

Table (4) the arithmetic means, and standard deviations for the paragraphs of the work environment

No.	Dimension	Mean	Standard deviation	Rank	Relative importance
1	Participation in decision-making	3.578	0.817	1	Medium
2	Social relations	3.526	0.702	2	Medium
3	Work pressure	0.889	0.889	3	Medium
4	Incentives	0.897	0.897	4	
Work exhaustion		3.440	0.636		Medium

Results in table (4) show that the level of the work environment scale is medium relative importance, with mean (3.440) and standard deviation (0.636), the table also shows that the mean of the (participation in decision-making) dimension is (3.758) standard deviation (0.817), and the relative importance of medium making this dimension come in first place. While the dimension (incentives came in the latest rank, with a mean (3.265) and standard deviation (0.897), and a medium the relative importance.

Multicollinearity test

To test the suitability of the study data for the analysis of linear regression analysis and parametric tests, Multicollinearity has been tested, this phenomenon indicates that two or more predictor variables are highly correlated, which inflates the Coefficient of determination R^2 and makes it larger than the actual value, therefore; variance inflation factor (VIF) of each variable was calculated according to the hypothesis being tested, and the results were as follows:

Table (5): results of the Multicollinearity among independent variables

Variable	VIF
Participation in decision-making	1.528
Social relations	1.497
Work pressure	1.447
Incentives	1.593

Table (5) shows that the variance inflation coefficient values were all greater than 1 and less than 10, which indicates the **Multicollinearity** problem is not found between the variables of the study.

To confirm the previous result was used Pearson correlation coefficient between the independent variable dimensions to make sure that there is no **Multicollinearity** problem between sub-variables to the independent variable.

Table (6) the correlation matrix dimensions of the work environment

Variable	Participation in decision-making	Social relations	Work pressure	Incentives
Participation in decision-making	1.000			
Social relations	0.511**	1.000		
Work pressure	0.390**	0.397**	1.000	
Incentives	0.512	0.444**	0.512**	1.000

(**) At the level of significance 0.01

Table (6) shows that the highest correlation among the independent variable is (0.512) between the two variables (work pressure) and (incentives), while the correlation coefficient values among other independent variables was less than that, this shows the Multicollinearity phenomenon is not found between the independent variables of the study, where they all came less than (0.80); therefore the sample

is free of Multicollinearity problem (Guajarati, 2004, 359).

Testing hypothesis

In this part of the study we review the test hypothesis, where the first major hypothesis and the relative hypothesis were analyzed using Multiple linear regression, while the second hypothesis was tested by Independent sample t-test, and one way- ANOVA, the result were as follows:

Testing the first main hypothesis H01

There is no statistically significant effect of internal work environment dimensions (participation in decision-making, social relations, work pressure, incentives) among workers in department of the public sector on the degree of work exhaustion.

Table (7) testing results of the impact of work environment dimensions pooled on work exhaustion

Variable	Model summary		ANOVA		Coefficient table				
	R	R ²	Calculated F	Sig. F	Dimension	B	SE**	T	Sig t
Work exhaustion	0.708	0.501	44.754	0.000	Participation in decision-making	0.158	0.047	3.374	0.001
					Social relations	0.109	0.054	2.023	0.045
					Work pressure	0.323	0.042	7.716	0.000
					Incentives	0.022	0.044	0.506	0.613

* The impact is statistically significant at the level of ($\alpha \leq 0.05$)

**SE: Standard error

Results in Table (7) indicate that the impact of the independent variables (the dimensions of the work environment) on the dependent variable (work exhaustion) is a statistically significant effect, where the F calculated value is (44.754), and the level of significance (Sig=0.000), which is less than 0.05, where the value of the coefficient of determination is ($R^2=0.501$) indicates that (50.1%) of the variance in (work exhaustion) can be explained by the variation in (the dimensions of the work environment) pooled.

Coefficients table showed that the value of B on (participation in decision-making) dimension is (0.158) and that the t-value of it is (3.374), and the level of significance (Sig. = 0.001), suggesting that the impact of this dimension is significant. The value of B on the dimension of (Social Relations) is (0.109) and t-value of it is (2.023), and the level of significance (Sig=0.045), suggesting that the impact of this dimension is significant also. Value B on the (work pressure) dimension is (0.323) and that t-value of it is (7.716), and the level of significance (Sig = 0.000), suggesting that the impact of this dimension is significant. The value of B on the (incentives) dimension is (0.22) and t-value of it is (0.506), and the level of significance (Sig= 0.613), suggesting that the impact of this dimension is insignificant.

Based on the foregoing, the first main hypothesis is rejected and the alternative hypothesis is accepted, the alternative hypothesis states:

There is a statistically significant effect of the internal work environment dimensions (participation in decision-making, social relations, work pressure and incentives) among employees of the public sector on the degree of work exhaustion.

Testing the first sub-hypothesis H01-1

There is no statistically significant effect of the internal work environment dimensions (participation in decision-making, social relations, work pressure and incentives) on the degree of emotional exhaustion among employees of the public sector.

Table (8) *test results of the impact of the pooled dimensions of work environment on emotional exhaustion.

Variable	Model summary		ANOVA		Coefficient table				
	R	R ²	Calculated F	Sig. F	Dimension	B	SE**	T	Sig t
Emotional exhaustion	0.605	0.366	25.723	0.000	Participation in decision-making	0.091	0.068	1.337	0.183
					Social relations	0.170	0.079	2.166	0.032
					Work pressure	0.474	0.061	7.780	0.000
					Incentives	-0.145	0.063	-2.291	0.023

* The effect is statistically significant at the level of ($\alpha \leq 0.05$)

**SE: Standard error

Results in Table (8) indicate that the impact of the independent variables (the dimensions of the work environment) on the dependent variable (emotional exhaustion) is a statistically significant effect, where the F calculated value is (25.723), and the level of significance (Sig=0.000), which is less than 0.05, the value of the coefficient of determination is ($R^2=0.366$) which indicates that (36.6%) of the variance in the (emotional exhaustion) can be explained by the variation in (the dimensions of the work environment) pooled.

Coefficients table showed that the value of B on (participation in decision-making) dimension is (0.091) and t-value of it is (1.337), and the level of significance (Sig.= 0.183), suggesting that the impact of this dimension is significant. The value of B on the dimension of (Social Relations) is (0.170) and the t-value of it is (2.166), and the level of significance (Sig=0.032), suggesting that the impact of this dimension is significant also. Value B on the (work pressure) dimension is (0.474) and that t-value of it is (7.780), and the level of significance (Sig = 0.000), suggesting that the impact of this dimension is significant. The value of B on the (incentives) dimension is (-0.145) and t-value of it is (-2.291), and the level of significance (Sig= 0.023), suggesting that the impact of this dimension is insignificant.

Based on the foregoing, the first null-hypothesis is rejected and the alternative hypothesis is accepted, the alternative hypothesis states:

There is a statistically significant effect of the internal work environment dimensions (participation in decision-making, social relations, work pressure and incentives) among employees of the public sector on the degree of emotional exhaustion.

Testing the second sub-hypothesis H01-2

There is no statistically significant effect of the internal work environment dimensions (participation in decision-making, social relations, work pressure and incentives) on the degree of depersonalization among employees of the public sector.

Table (9) *Test results of the impact of the pooled dimensions of work environment on depersonalization

Variable	Model summary		ANOVA		Coefficient table				
	R	R ²	Calculated F	Sig. F	Dimension	B	SE**	T	Sig t
Depersonalization	0.573	0.328	21.759	0.000	Participation in decision-making	-0.120	0.084	-1.483	0.140
					Social relations	0.132	0.093	1.419	0.050
					Work pressure	0.411	0.072	5.672	0.000
					Incentives	0.216	0.075	2.867	0.000

* The effect is statistically significant at the level of ($\alpha \leq 0.05$)

**SE: Standard error

Results in Table (9) indicate that the impact of the independent variables (the dimensions of the work environment) on the dependent variable (depersonalization) is a statistically significant effect, where the F calculated value is (21.759), and the level of significance (Sig=0.000), which is less than 0.05, the value of the coefficient of determination is ($R^2=0.328$) which indicates that (32.8%) of the variance in the (depersonalization) can be explained by the variation in (the dimensions of the work environment) pooled.

Coefficients table showed that the value of B on (participation in decision-making) dimension is (-120) and t-value of it is (-1.483), and the level of significance (Sig.= 0.140), suggesting that the effect of this dimension is significant. The value of B on the dimension of (Social Relations) is (0.132) and the t-value of it is (1.419), and the level of significance (Sig=0.158), suggesting that the impact of this dimension is significant also. Value B on the (work pressure) dimension is (0.411) and that t-value of it is (5.672), and the level of significance (Sig = 0.000), suggesting that the impact of this dimension is significant. The value of B on the (incentives) dimension is (0.216) and t-value of it is (2.867), and the level of significance (Sig= 0.005), suggesting that the impact of this dimension is insignificant.

Based on the foregoing, the second null-hypothesis is rejected and the alternative hypothesis is accepted,

the alternative hypothesis states:

There is a statistically significant effect of the internal work environment dimensions (participation in decision-making, social relations, work pressure and incentives) among employees of the public sector on the degree of depersonalization.

Testing the third sub-hypothesis H01-3

There is no statistically significant effect of the internal work environment dimensions (participation in decision-making, social relations, work pressure and incentives) on the degree of personal accomplishment among employees of the public sector.

Table (10) *Test results of the impact of the pooled dimensions of work environment on accomplishment.

Variable	Model summary		ANOVA		Coefficient table				
	R	R ²	Calculated F	Sig. F	Dimension	B	SE**	T	Sig t
Personal accomplishment	0.624	0.390	28.452	0.000	Participation in decision-making	0.503	0.064	3.374	0.001
					Social relations	0.025	0.074	0.335	0.738
					Work pressure	0.084	0.057	1.460	0.146
					Incentives	-0.005	0.060	-0.077	0.938

* The effect is statistically significant at the level of ($\alpha \leq 0.05$)

**SE: Standard error

Results in Table (10) indicate that the impact of the independent variables (the dimensions of the work environment) on the dependent variable (**Personal accomplishment**) is a statistically significant effect, where the F calculated value is (28.425), and the level of significance (Sig=0.000), which is less than 0.05, the value of the coefficient of determination is ($R^2=0.390$) which indicates that (39.0%) of the variation in the (**Personal accomplishment**) can be explained by the variation in (the dimensions of the work environment) pooled.

Table of coefficients showed that the value of B on (participation in decision-making) dimension is (0.503) and t-value of it is (7.830), and the level of significance (Sig.= 0.000), suggesting that the effect of this dimension is significant. The value of B on the dimension of (Social Relations) is (0.025) and the t-value of it is (0.335), and the level of significance (Sig=0.738), suggesting that the impact of this dimension is significant. Value B on the (work pressure) dimension is (0.084) and that t-value of it is (1.460), and the level of significance (Sig = 0.146), suggesting that the impact of this dimension is significant. The value of B on the (incentives) dimension is (-0.005) and t-value of it is (-0.077), and the level of significance (Sig= 0.938), suggesting that the impact of this dimension is insignificant.

Based on the foregoing, the third null-hypothesis is rejected and the alternative hypothesis is accepted, the alternative hypothesis states:

There is a statistically significant effect of the internal work environment dimensions (participation in decision-making, social relations, work pressure and incentives) among employees of the public sector on the degree of personal accomplishment.

Testing the second main null-hypothesis H02

There is no statistically significant differences in the degree of the three dimensions work exhaustion among employees of the public sector.

The sub-hypothesis of this hypothesis were tested using Independent Sample T-Test and One-way ANOVA test. The results were as follows:

1. Gender

Table (11) *Testing differences at work exhaustion attributed to the gender variable.

Gender	Mean	Standard deviation	Value of difference	t-value	Sig.
Male	3.4606	0.6299	0.0576	0.664	0.507
Female	3.4030	0.5312			

* The effect is statistically significant at the level of ($\alpha \leq 0.05$)

The table indicates that the difference between the means of male and female responses about work exhaustion is (0.0576) in favor of males, which is not statistically significant, where the calculated t-value of it is ($t=0.664$), and the level of significance ($\text{Sig}=0.507$), which is greater than 0.05, thus we can conclude that there are no significant differences at work exhaustion attributed to gender.

2. Age

Table (12) *Testing differences of work exhaustion attributed to the age variable.

Age	Source of variation	Sum of squares SOS	Degree of freedom DF	Mean Square MS	Calculated t-value	Sig.
Work exhaustion	Among groups	5.435	3	1.812	5.709	00.01
	Inside groups	56.799	179	0.317		
	Total	62.234	182			

The table shows that there are significant differences in the responses of respondents at work exhaustion attributed to the age variable, where the calculated t-value of it is ($t=0.664$), and the level of significance ($\text{Sig}=0.507$), which is greater than 0.05, thus we can conclude that there are no significant differences at work exhaustion attributed to gender.

To identify the source of the differences; Scheffe's test for a posterior comparisons was used, and the results were as follows:

Table (13) Scheffe's test for a posterior comparisons between means of the *differences to identify the differences at work exhaustion attributed to the age variable

Category	Mean	30 years and less	31-40 years	41-50 years	51-60 years
		3.2886	3.3323	3.6877	3.6478
30 years and less	3.2886				
31-40 years	3.3323	-0.0437			
41-50 years	3.6877	-0.3991*	-0.3554*		
51-60 years	3.6478	-0.0762	-0.0325		

(*) significant at the level of 0.05.

Table (13) shows that there is statistically significant difference in the sample responses about work exhaustion on attributed to the age variable between the age category: (41-50 years old) on the hand, and the two age categories: (30 years and below) and (31-40 years old) on the other hand, where the value of the difference (0.3991) and (0.3554) in favor of the two categories (30 years and below) and (31-40 years old).

3. Qualification

Table (14) *Testing differences of work exhaustion attributed to the age variable.

Age	Source of variation	Sum of squares SOS	Degree of freedom DF	Mean Square MS	Calculated t-value	Sig.
Work exhaustion	Among groups	3.048	3	1.016	3.072	0.029
	Inside groups	59.186	179	0.331		
	Total	62.234	182			

The table shows that there are significant differences in the responses of respondents at work exhaustion attributed to the age variable, where the calculated t-value at the significant level ($\alpha \leq 0.05$) is ($t=5.709$), and the level of significance ($\text{Sig}=0.001$), which is less than 0.05, thus we can conclude that there are significant differences at work exhaustion attributed to qualification.

To identify the source of the differences; Scheffe's test for a posterior comparisons was used, and the results were as follows:

Table (15) Scheffe's test for a posterior comparison between means of the differences to identify the differences at work exhaustion attributed to the qualification variable

Category	Mean	High school or less	Intermediate Diploma	BA	Higher Education
		3.5220	3.3782	3.3418	3.7239
High school or less	3.5220				
Intermediate	3.3782	0.1438			

Diploma					
BA	3.3418	0.1802	-0.0364		
Higher Education	3.7239	-0.2019	-0.3821*		

(*) significant at the level of 0.05.

Table (15) shows that there is statistically significant difference in the sample responses about work exhaustion attributed to the educational qualification variable between the (higher education) category and (BA) category, where the value of the differences is (0.3821) in favor of the (higher education) category.

4. Years of Experience

Table (16) *Testing differences of work exhaustion attributed to the age variable.

Years of Experience	Source of variation	Sum of squares SOS	Degree of freedom DF	Mean Square MS	Calculated t-value	Sig.
Work exhaustion	Among groups	0.965	3	0.322	0.940	0.423
	Inside groups	61.269	179	0.342		
	Total	62.234	182			

The table shows that there are significant differences in the responses of respondents at work exhaustion attributed to the age variable, where the calculated t-value at the significance level ($\alpha \leq 0.05$) is ($t=0.940$), and the level of significance ($\text{Sig}=0.423$), which is greater than 0.05, thus we can conclude that there are no significant differences at work exhaustion attributed to the number of years of experience.

5. Career level

Table (17) *Testing differences of work exhaustion attributed to the age variable.

Years of Experience	Source of variation	Sum of squares SOS	Degree of freedom DF	Mean Square MS	Calculated t-value	Sig.
Work exhaustion	Among groups	10.614	3	3.538	12.269	0.000
	Inside groups	51.620	179	0.288		
	Total	62.234	182			

The table shows that there are significant differences in the responses of respondents at work exhaustion attributed to the career level variable, where the calculated t-value at the significance level ($\alpha \leq 0.05$) is ($t=12.269$), and the level of significance ($\text{Sig}=0.000$), which is less than (0.05), thus we can conclude that there are no significant differences at work exhaustion attributed to the career level.

To identify the source of the differences; Scheffe's test for a posterior comparisons was used, and the results were as follows:

Table (18) Scheffe's test for a posterior comparison between means of the differences to identify the differences at work exhaustion attributed to the career level variable

Category	Mean	Director General or assistant director	Unit director or department director	Department head	Writer
		3.5220	3.3782	3.3418	3.7239
Director General or assistant director	3.8289				
Unit director or department director	3.5297	0.2992			
Department head	3.4158	0.4131*	0.1139		
Writer	3.1929	0.6360*	0.3368*	0.2229	

(*) significant at the level of 0.05.

Table (18) shows that there is a statistically significant difference in the sample responses about work exhaustion attributed to the career level variable between the category: (Director General and assistant director) on one hand, and the two categories: (head of department) and (writer) on the other hand, where the value of the differences (0.4131) and (0.3630) in favor of the category of (Director General and assistant director).

There was also a statistically significant difference in the sample responses about work exhaustion attributed to the financial level variable between the category: (unit manager or director of department) and (writer) category, where the value of the difference is (0.3368) in favor of the (unit manager or director of department) category.

Conclusions and recommendations

In light of the foregoing, the study concluded the following conclusions:

How widespread is the phenomenon of work exhaustion (Job burnout) among employees of the public sector?

The result showed from the perceptions of the respondents that the phenomenon of work exhaustion exists on a medium level among employees of the public sector who had a mean (3.434), the mean personal accomplishment dimension (3.540), and it was found that after personal accomplishment came in the first rank, that is because employees cannot stop work even if they were bothered, but to cope with problems quietly seeking accomplishment. Depersonalization came on last rank with a mean (3.257)

because employees cannot get tough on the reviewers, but have to deal respectfully with all reviewers otherwise they will be subjected to accountability and punishment.

- The results also showed that the medium nature of the internal work environment that surrounds the employees, and had a mean (3.440). It is found that the dimension of participating in decision-making came in the first place, this is due to the importance of the employees' participation and the high spirit they feel when they participate in decision-making and this makes them feel not marginalized and they are significant to their employers. Incentive came in the last rank; that is because of the biased promotions, non-continuous appreciation expressed by employers and that the senior management overlooks the importance of thank-you books and appreciation books in boosting employees' morale. In addition to employee's feeling that their salaries are not commensurate with the load of work they do.

- Results showed that there is a statistically significant effect of the internal work on the degree of work exhaustion, where the value of the coefficient of determination ($R=0.501$) which indicates that (50.1%) of the variation in the work exhaustion can be explained by the variation in the pooled dimensions of the work environment. The value of Sig was less than the value of alpha, this confirms that there is an impact of the internal work environment on the degree of work exhaustion, and this leads to reject the main hypothesis: "There is no impact of the internal work environment at work exhaustion, and accept the alternative hypothesis: "There is a statistically significant effect of internal work environment on work exhaustion" in the public sector. This shows that the healthy work environment characterized by flexibility and cooperation has significant effect on the psychological health which spares employees of work exhaustion risks and strengthens the workers' relationship with their institution and prevents job rotation.

The results lead to conclude that there are no differences in the degree of work exhaustion between male and female workers, this shows that tasks are not assigned to employee based on sex. Results show that the employees of the younger age categories (less than 30 years) and (31-40) years are more susceptible to work exhaustion than the employees of the age category ranging between (41-50) years; as the employees of this age category enjoy greater degree of patience, endurance and experience than the younger age categories. The respondents' responses on work exhaustion showed that the higher education graduates are more burned out than the respondents with bachelor's degree, this is attributed to the large number of responsibilities they bear and the tasks entrusted to them make them more tense and more careful to perform their properly and distinctively.

As for the years of experience no differences were found in the variable of sex, and that this is due to that the tasks assigned to employees regardless of their sex, as mentioned before.

As for the functional level there are clear significant differences. It was found that the degree of job burnout was greater among (Director General and Assistant Director) as well as (unit director and director of the Directorate) who have a higher degree of work exhaustion than the (department head and writer), meaning that the higher the job title on the career pyramid the higher the work exhaustion among staff.

Recommendations:

1. The study recommends the need to alleviate the pressures of work during office hours, by allocating some time to talk and exchange knowledge, and group session with the manager with a cup of coffee would activate the staff, and relief their work pressure.
2. Spread the spirit of teamwork and encourage the establishment of good social relations that help relieve pressure at work.
3. Providing places for entertainment and involving workers in health clubs and restaurant to consolidate their relationships and strengthen their belonging to the Department.
4. Not overworking employees with tasks more than what they can achieve, so that they do not become exhausted all the time.
5. Giving more financial and morale incentives, as it makes workers stay at their job positions and reduce job relation and prevents work exhaustion.
6. Encouraging informal relations, allowing the establishment of good relations between employees as this help increases the employees belonging to the Department.

Arabic References:

- Jarrar, Sanabel (2011), **the relationship between earnestness at work and exhaustion among public secondary schools' principals in the provinces of northern West Bank**, unpublished MA Thesis, An-Najah National University, Nablus, Palestine.
- Al-Jamal, Amani (2012), **"Job Burnout among women working in the Palestinian National Authority Institutions in the Gaza Strip"**, unpublished MA Thesis, Islamic University in Gaza Palestine.
- Herzullah, Ashraf Riad (2007), **"the extent of the secondary school teachers participation in decision-making and its relationship to their job satisfaction"**, unpublished MA Thesis, Islamic University in Gaza, Palestine.
- Hayek, Hiam (2000): **"The level of job burnout among computer teachers in the Jordanian public school"**, unpublished MA Thesis, Yarmouk University, Irbid, Jordan.
- Rashdan, Malek Ahmed (1995), **"Burnout among faculty members at Jordanian public universities and its relationship with some variables"**, unpublished MA Thesis, Yarmouk University, Irbid, Jordan.
- Zyoud, Nada (2002). **"The reality of burnout of psychological and educational counselors in Zarqa, Jordan"** Journal of educational Sciences, Faculty of Education- University of Qatar, No. 1, (197-222).
- Tarawneh, Hussein & Moses, Mohammad Yasin, (2014) A. **"Making regulatory decisions in business organization"**, Amman: Dar Al-Ayam for publication and distribution.
- As-Salkhi, Mahmoud (2013), **"Burnout levels among Islamic education teachers working at private schools in the city of Amman, in light of some variables"**, Educational Science Studies Volume: 40, appendix: 4, 2013.
- Askar, Ali (2006). **"Pressure of life and methods to face them"** Cairo, Zahraa Sharq Library.
- Abu Asal, Khalil Awad (2011), **"the Moral Climate and its Relationship to Burnout and Organizational Commitment among the Heads of Departments in the Departments of Education"** Unpublished doctoral dissertation, Faculty of Educational and Psychological Sciences, Amman Arab University.
- Ali, Fatima, (2002): **"Analytical Study of the Work Pressures among Egyptian Women Normalization on the Cabinet of the Egyptian Electricity Authority"**, arbitration research, the Arab Management magazine, Vol. 22, No. (1), 28, Egypt: Anizharabah Administrative Development.
- Al-Amyan, Mahmoud Salman (2013). **"Organizational Behavior in Business Organizations"** Amman: Dar Wael.

- Maghribi, Mohammed Kamel (2004), **“Organizational Behavior: Concepts and Foundations of Behavior of the Individual and the Community in the Organization”**, Amman: Dar Al-Fikr.
- Faramana, Abdullah (2009), **“Psychological Pressure at Work and life”** Amman: Dar Al Safa.
- Al-Qahtani, Saad, (2012) **“The Internal Work Environment’s Relationship to the Morale of workers at the Passport Institute in Riyadh”**, unpublished MA Thesis, Naif Arab University for security Sciences- Department of Administrative Sciences, Riyadh.
- Qaryouti, Mohammad Qasim (2009). **“Organizational Behavior, Study of Human Behavior in the Individual and Collective Business Organizations”**, Amman: Dar Wael.
- Kelabi, Saad & Rashid, Mazen (2001). **“Job Burnout Exploratory Study to Maslack Scale on Staff in Riyadh”** King Saud University Journal, Administrative Science, folder: 13 No. 1, P. 113-150.
- Maher, Ahmed, (2011), **Organizational Behavior Entrance Building Skills**, Alexandria: Unit House- Jad Allah.
- Mohammad, Seham **“Burnout”**, the Center for Disabilities Studies (electronic version) on site.....
- Abu Masoud, Samaher (2010) **“Job Burnout Phenomenon among the Administrative Staff at the Ministry of Education and Higher Education in the Gaza Strip- Causes and how to Treat it”**, unpublished MA Thesis, Islamic University of Gaza, Palestine.
- Abu Musa, Anwar, (2012). **“Job Burnout and its Impact on the Employees Performance, Case Study on the Administrative Staff in the Reconstruction Association for Development and Rehabilitation (Emaar)”**, Unpublished MA Thesis, Community Development Institute, the Islamic University in Gaza, Palestine.

English References:

- Alparsalan, Ozgur & Doganer, Gullbahtiyar, (2009) **Relationship Between Levels of Burnout of Midwives who work in Sivas, Turkey Province Center and Identified Sociodemographic Characteristics”**, International Journal of Nursing and Midwifery Vol. 1(2) PP. 190-280, Available online <http://www.academicjournals.org/ijnm>.
- Bayram, N & others, (2010), **“Burnout, Vigor and Job Satisfaction among Academic Staff”**. European Journal of Sciences, Vol. 17 No. 1, PP. 41-53.
- Caponetti, A (2012) **“The Correlates of Work Role Stress with Employee Burnout, Engagement”**.
- Freudenberg, H. (1981) **“Burnout”** P. 18, Available on line : www.Adrenalfatigue.Org.
- Jackson S. (1984) **Organizational Practices for Preventing Burnout**. In A Sethi and R. Sehular (Eds), **Handbook of Organizational Stress Coping Strategies**, Cambridge, MA: Ba Uinger.
- Maslach. C. and Jackson, S. (1981), **“The Measurement of Experienced Burnout”** Journal of Occupational Behavior.
- Maslach. C. and Pine, A. (1977), **“The Burnout Syndrome in the Day Care Setting”** Child Care Quarterly, 6 PP. 1001-113.
- Maslach. C. & Michale P. Leiter (1997). **“The Truth About Burnout: How Organizations Cause Personal Stress and What To Do About It”**.
- Sowmya, K. R. & Panchanatham, N., (2011) **“Job Burnout: an Outcome of Organizational Politics in Banking Sector”** For East Journal of Psychology and Business, Vol. 2 No.1, PP: 49-58.

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DEVELOPMENT OF A RISK MODEL FOR LENDING CLUBS

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Abstract

Objective: This study aims to build a risk model for default in Lending Club using logistic regression model.

Methods: Data was downloaded from <https://www.kaggle.com/wendykan/lending-club-loan-data/data>. These files contain complete loan data for all loans issued through the 2007-2015, including the current loan status (Current, Late, Fully Paid, etc.) and latest payment information.

All the records who were eligible were randomly assigned into 2 groups: training sample and testing sample. Logistic regression model was built using training sample.

Results: There were 1147 defaults out of 201350 transactions. The dataset is highly unbalanced, the positive class (defaults) account for 0.570% of all transactions.

According to the logistic regression, the loan amount, interest rate and installment were at important predictors for default in Lending Club. So were debt/income ratio, incidences of delinquency in the past 2 years, inquiries in past 6 months, number of open credit lines and number of derogatory public records and total number of credit lines currently.

For training sample, the ROC was 0.73 for the Logistic regression model. In testing sample, the ROC was 0.75 for the Logistic regression model.

Conclusions: In this study, we identified several important predictors for default in Lending Club, including loan amount, interest rate and installment. This model has good discriminating capability.

1 Instruction

Peer-to-peer lending, also abbreviated as P2P lending, is the practice of lending money to individuals or businesses through online services that match lenders with borrowers. Lending Club is the world's largest peer-to-peer lending platform. The company claims that \$15.98 billion in loans had been originated through its platform up to December 31, 2015. Lending Club enables borrowers to create unsecured personal loans between \$1,000 and \$40,000. The standard loan period is three years. Investors can search and browse the loan listings on Lending Club website and select loans that they want to invest in based on the information supplied about the borrower, amount of loan, loan grade, and loan purpose. Investors make money from interest. Lending Club makes money by charging borrowers an origination fee and investors a service fee.

To reduce default risk, Lending Club focuses on high-credit-worthy borrowers, declining approximately 90% of the loan applications it received as of 2012 and assigning higher interest rates to riskier borrowers within its credit criteria. Only borrowers with FICO score of 660 or higher can be approved for loans.

Since inception, Lending Club's default rate ranges from 1.4% for top-rated three-year loans to 9.8% for the riskiest loans in year 2012. Peer-to-peer lending's future is depending on the successful management of default rate in company like in Lending Club.

This study aims to 1) examine the predictors of Default in Lending Club 2) build a predictive model for Default in Lending Club using logistic regression model.

2 Data and Methods:

Data:

Data was downloaded from <https://www.kaggle.com/wendykan/lending-club-loan-data/data>.

These files contain complete loan data for all loans issued through the 2007-2015, including the current loan status (Current, Late, Fully Paid, etc.) and latest payment information. The file containing loan data through the "present" contains complete loan data for all loans issued through the previous completed calendar quarter. Additional features include credit scores, number of finance inquiries, address including zip codes, and state, and collections among others. The file is a matrix of about 890 thousand observations and 75 variables. A data dictionary is provided in a separate file.

The outcome of interest in this study is the default (versus paid fully) of payment in Lending club. Below variables were included in the model as predictors.

loan_amnt	The listed amount of the loan applied for by the borrower. If at some point in time, the credit department reduces the loan amount, then it will be reflected in this value.
int_rate	Interest Rate on the loan
installment	The monthly payment owed by the borrower if the loan originates.
annual_inc	The self-reported annual income provided by the borrower during registration.
dti	A ratio calculated using the borrower's total monthly debt payments on the total debt obligations, excluding mortgage and the requested LC loan, divided by the borrower's self-reported monthly income.
delinq_2yrs	The number of 30+ days past-due incidences of delinquency in the borrower's credit file for the past 2 years
inq_last_6mths	The number of inquiries in past 6 months (excluding auto and mortgage inquiries)
open_acc	The number of open credit lines in the borrower's credit file.

pub_rec	Number of derogatory public records
revol_bal	Total credit revolving balance
revol_util	Revolving line utilization rate, or the amount of credit the borrower is using relative to all available revolving credit.
total_acc	The total number of credit lines currently in the borrower's credit file
Grade_AB	LC assigned loan grade
Grade_CD	LC assigned loan grade
Grade_EF	LC assigned loan grade
emp7y	Employment length in years. Possible values are between 0 and 10 where 0 means less than one year and 10 means ten or more years.
emp10y	Employment length in years. Possible values are between 0 and 10 where 0 means less than one year and 10 means ten or more years.
owned	Home ownership
verified	Indicates if income was verified by LC, not verified, or if the income source was verified
debt_conso	Loan Purpose: Debt consolidation
credit_c	Loan Purpose: Credit card payment

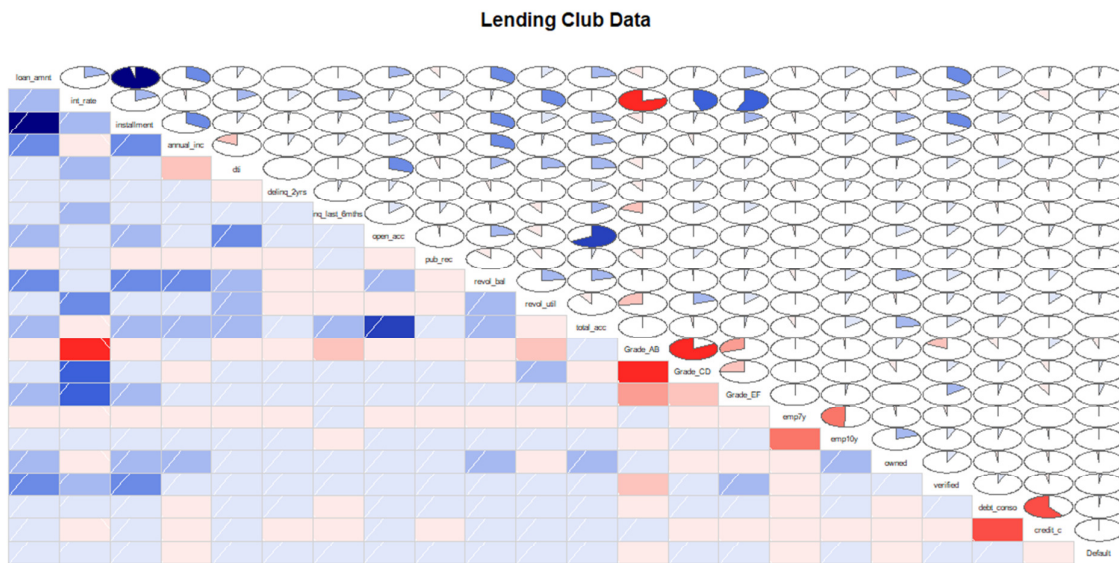
All the records who were eligible were randomly assigned into 2 groups: training sample and testing sample. Logistic regression model was built. Receiver operating characteristic (ROC) was calculated for its discrimination capability.

3 Results

There were 1147 defaults out of 201350 transactions. The dataset is highly unbalanced, the positive class (defaults) account for 0.570% of all transactions.

Basically, a corrgram is a graphical representation of the cells of a matrix of correlations. The idea is to display the pattern of correlations in terms of their signs and magnitudes using visual thinning and correlation-based variable ordering. Moreover, the cells of the matrix can be shaded or colored to show the correlation value. The positive correlations are shown in blue, while the negative correlations are shown in red; the darker the hue, the greater the magnitude of the correlation.

Figure 1: matrix of correlations between variables



According to the logistic regression, the loan amount, interest rate and installment were at important predictors for default in Lending Club. So were debt/income ratio, incidences of delinquency in the past 2 years, inquiries in past 6 months, number of open credit lines and number of derogatory public records and total number of credit lines currently.

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 \dots$$

Table 2: Logistic Regression for Default in Lending Club

	Estimate	Std. Error	z value	Pr(> z)	
(Intercept)	-6.015	0.447	-13.454	< 2e-16	***
loan_amnt	0.000	0.000	7.578	0.000	***
int_rate	0.038	0.015	2.495	0.013	*
installment	-0.002	0.000	-6.134	0.000	***
annual_inc	0.000	0.000	-2.011	0.044	*
dti	0.046	0.004	10.656	< 2e-16	***
delinq_2yrs	0.148	0.026	5.615	0.000	***
inq_last_6mths	-0.060	0.030	-1.998	0.046	*
open_acc	0.048	0.008	5.976	0.000	***

pub_rec	0.253	0.050	5.060	0.000	***
revol_bal	0.000	0.000	-1.059	0.290	
revol_util	0.000	0.001	0.296	0.768	
total_acc	-0.021	0.004	-5.606	0.000	***
Grade_AB	-1.254	0.318	-3.947	0.000	***
Grade_CD	-0.398	0.265	-1.502	0.133	
Grade_EF	-0.073	0.238	-0.308	0.758	
emp7y	-0.032	0.080	-0.399	0.690	
emp10y	0.098	0.071	1.369	0.171	
owned	-0.404	0.064	-6.339	0.000	***
verified	0.133	0.076	1.738	0.082	.
debt_conso	0.121	0.086	1.397	0.162	
credit_c	0.140	0.106	1.320	0.187	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

For training sample, the ROC was 0.73 for the Logistic regression model. In testing sample, the ROC was 0.75 for the Logistic regression model.

4 Discussions

Known as crowdlending, many peer-to-peer loans are unsecured personal loans, though some of the largest amounts are lent to businesses. Unsecured personal loans demand better management of risk of default to make a legitimate investment.

In this study, we built a predictive model using logistic regression to provide a tool for predicting default in Lending Club. The difference in the two models highlights the needs to employ different tools to understand the predictors of default in payment in Lending Club to better manage the business risk.

According to the logistic regression, the loan amount, interest rate and installment were at important predictors for default in Lending Club. So were debt/income ratio, incidences of delinquency in the past 2 years, inquiries in past 6 months, number of open credit lines and number of derogatory public records and total number of credit lines currently.

REFERENCES

1. "Lending Club Statistics". Lending Club.
2. "Lending Club Statistics". Lending Club. Retrieved April 16, 2012.
3. Barth, Chris (June 6, 2012). "Looking for 10% yields? Go online for peer to peer lending". Forbes. Retrieved July 25, 2012.

DETERMINANTS OF COMMERCIAL BANKS' LENDING BEHAVIOR IN NEPAL

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Abstract

The main objective of this study was to establish the determinants of lending operations among commercial banks in Nepal. Specifically, the study sought to explore the effect of bank specific characteristics and to identify external factors that determine commercial banks' lending behavior in Nepal. Secondary panel data was used that covered a period of six years (2012/13-2017/18) of the major ten commercial banks to examine factors associated with lending behavior of in Nepal. From the estimation results, it was found that liquidity ratio, interest rate spread and exchange rate were significant in determining lending behavior in Nepal's commercial banks. The positive effect of exchange rate infers that commercial banks in Nepal have sufficient insights into the international market and trade and that they are prepared to meet short-term and long-term commitments. Inflation maintained by the central economic policy has a positive and significant influence on lending volumes among commercial banks in Nepal. Likewise, the findings showed interest rate spread negatively and significantly on total loans advanced to individual and institutions. This implies that as the cost of borrowing increases, banks significantly increase credit supply in the market. However, there seems a greater deal of reluctance from among the borrowers to get more credit in such situations. During periods of economic stagnation, majority of loans become non-performing and thus constraining credit available to private sector.

Keywords: Loans and Advances, Interest Rate Spread and Cash Reserve Ratio, Inflation Rate and Exchange Rate

Introduction

Commercial banks are significant in the overall performance of an economy and acts as a financial

intermediate. Commercial banks have been at the center of driving the economy as evidenced through the tremendous growth in the private sector credit over time (Olokoyo, 2011). According to Jamil (1988) and Beck, Demirguc-Kunt and Maksimovic (2004) if bank credit is not available, the expansion of productive investments in manufacturing, agriculture, real estate development, distribution, fishing, trade, tourism etc. would in many cases be impossible. Moreover, productive units would be forced to maintain larger working capital balances to meet fluctuating requirements for funds. This is uneconomical since large sums would have to be held idle for some periods while during seasonal peaks of business activity, such sums might be insufficient.

However, according to King (1986), regulation is necessary to check excessive credit creation. The economy needs adequate but not excessive supply of money, which might result in high inflation. On the other hand, if money supply lags behind production rates, the economy may suffer from deflation with equally undesirable effects (Celikoz and Arslan, 2011). Government's monetary policy instruments seek to ensure an optimal money supply commensurate with the national objectives of stable prices, sound economic growth and high employment.

Overall, it is evident that financial intermediation involving mobilization of funds from cash surplus economic agents to cash deficit agents to finance productive investment and therefore productivity is crucial in determining the pace of economic growth and development (Levine, 2004).

In developing country commercial banks are very important of the financial approach. They always concern about how to make funds and how they lending and investing to their borrowers. Financial institutions provide capital to the entrepreneurs for the development of industry, trade and business by investing saving collected as deposits. They also providing good services to their customers, facilitating their economic activities, thus, integrated and speedy development of the country is only possible. When competitive and reliable banking services are developed and carried to every hook and corner of the country.

One of the basic objectives of establishing a commercial bank is to earn optimal profit by proper utilization of fund. By mobilizing public money and channeling the same to various business and production activities. Commercial banks contribute to the development of the country. In a developing country like Nepal, saving is low and scatters in small amounts which individuals residing in different corners of the country. Mobilization of such savings is made by commercial banks through their branches established in different parts of the country.

Empirical Review

There is vast empirical literature on the factors associated with lending behavior among commercial banks.

Vazakidis and Adamopoulos (2009) investigated the relationship between economic growth and credit market development in Italian market. The log-linear regression model indicated a positive effect of economic growth on credit market development. Further, the authors established that through the transmission mechanism, a rise in prime rate negatively affects banks' lending behaviour. This affirms a previous study whereby bank credit expansions lean to be pro-cyclical; that is, high rates of growth in

GDP induces a high rate of growth in bank credit. This is due to the fact that in the period of economic boom, banks loosen up their criteria and lend to both good and bad projects, while in times of economic depression most loans become non-performing and thus constraining credit available to private sector.

Karim et. al., (2011) examined the effects of monetary policy channel on the banks' lending for Malaysian market using the data covering the period 1993 to 2008. From the OLS results, bank liquidity was shown to be core and significant in determining the supply of loans by banks. This is in tandem with the earlier study which conclude that during the 2008 financial crises, banks were ultimately faced by liquidity stress hence capping their lending ability. There exists a pro-cyclical relationship between economic growth and bank lending because in periods of economic recession, demand for credit plummets.

Olokoyo (2011) studied the determinants of the commercial banks' lending behaviour in Nigeria for the period 1980 – 2005. The study used fixed effects regression model. From the study result, it was found out that a long-run relationship existed between banks' lending, deposits, interest rate, minimum cash reserve requirement, investment portfolio, ratio of liquidity, foreign exchange and gross domestic product. Specifically, lending rates were found to influence banks' lending performance despite being unpronounced. These affirms the finding by Karim et al (2011) who investigates the impacts of interest rates on the banks' lending in Malaysian context and contend that interest rates negatively affect lending among the banks while controlling for macroeconomic variables such as GDP and inflation.

Ngomsi and Djiogap (2012) investigated the determinants of bank long-term lending behavior in the Central African Economic and Monetary Community. The study applied Ordinary Least Square (OLS) as an estimation technique. From the study results, it was revealed that ownership of a bank is core in determining the total loan and advances extended by a bank. The study revealed that foreign banks tend to exhibit higher long-term loan ratios compared to the state owned.

Olumuyiwa et. al., (2012) explored the link between banks deposits and total loans advanced by commercial banks using OLS. The study results indicated a positive impact of deposits on the commercial banks' lending volumes. This was supported by the findings of McCathy et al. (2010) who found out the presence of a positive effect of customer deposits on the banks' lending. Similarly, another study found that demand deposits liabilities had the most significant positive effect on the banks' credit allocations in the Nigerian credit market.

It is debated that a big balance sheet allows managers to invest more in different geographical and business segments to address the issues of asymmetric shocks. In a study conducted by Obamuyi (2013) revealed that the banks size measured by total assets and bank capitalization influenced commercial lending behaviors and the likelihood of long term lending. The author suggests that large banks have an advantage in providing a large variety of financial services to their clients since they are capable of mobilizing more funds. Regarding the magnitude of the bank, Cole et al (2004) found out that small banks adopt small business loan underwriting practices that are riskier than those of larger banks which ultimately determine the available credit to the public.

Irungu, (2013) explored effect of interest rate spread on financial performance of commercial banks in

Kenya. The study collected data from all 43 commercial banks in Kenya. A multiple linear regression model was adopted. It was revealed that a strong positive and significant relationship between financial performance of commercial banks and interest rate spread. It was shown that interest rate spread affect performance asset in banks since it raised cost of borrowers.

Malede (2014) explored determinants of commercial banks' lending in the Ethiopian banking industry using panel data from eight banks for the period between 200 and 2011. The results of the study indicate a significant relationship between banks' lending and banks size, credit risk, gross domestic product and liquidity ratios. On contrary, the study found out that deposit, investments, cash reserve ratios and interest rates had no significant effect on Ethiopian banks' lending activities.

Bhattarai (2016) examined the effect of credit risk on performance of selected 14 commercial banks of Nepal for the period between 2010 and 2015. He has used the descriptive and causal comparative research designs as well as regression model. His study indicated that banks performance was directly positively affected by variable like bank size, credit risk indicators and cost per loan assets. The same study, however, did not find any relationship between banks' performance with the capital adequacy ratio and cash reserve. In contrast, the non-performing loan ratio seemed to have affected the performance of the bank in negative way.

Timsina (2016) conducted a study to evaluate the banks' lending operations and its drivers using time series analysis, Ordinary Least Square Regression techniques and empirical analysis. This has perhaps been the most comprehensive study conducted of this type using all the commercial banks and for the duration of 1975-2014. She has found that liquidity ratio of the banks, in addition to the Gross Domestic Product, has hugely affected the lending operations of the commercial banks. Upon performing the Granger Causality Test, she recorded that there is a unidirectional causal relationship from GDP to private sector credit. She has also implied that the GDP should be the barometer of the economy which is to be closely observed by the commercial banks while making adjustment to their lending operations.

Conceptual Framework

The review of both theoretical and empirical literature indicates that most of the studies on the banks' lending behavior have been carried out in the developed financial markets. Studies reviewed here used total loan advanced, volume of deposits, bank's investment portfolio, lending rate, cash reserve ratio, liquidity ratio, credit risk, interest rate spread, capital structure and exchange rate as dependent and independent variables (Olokonyo, 2011; Olumuyiwa, 2012 and Malede, 2014).

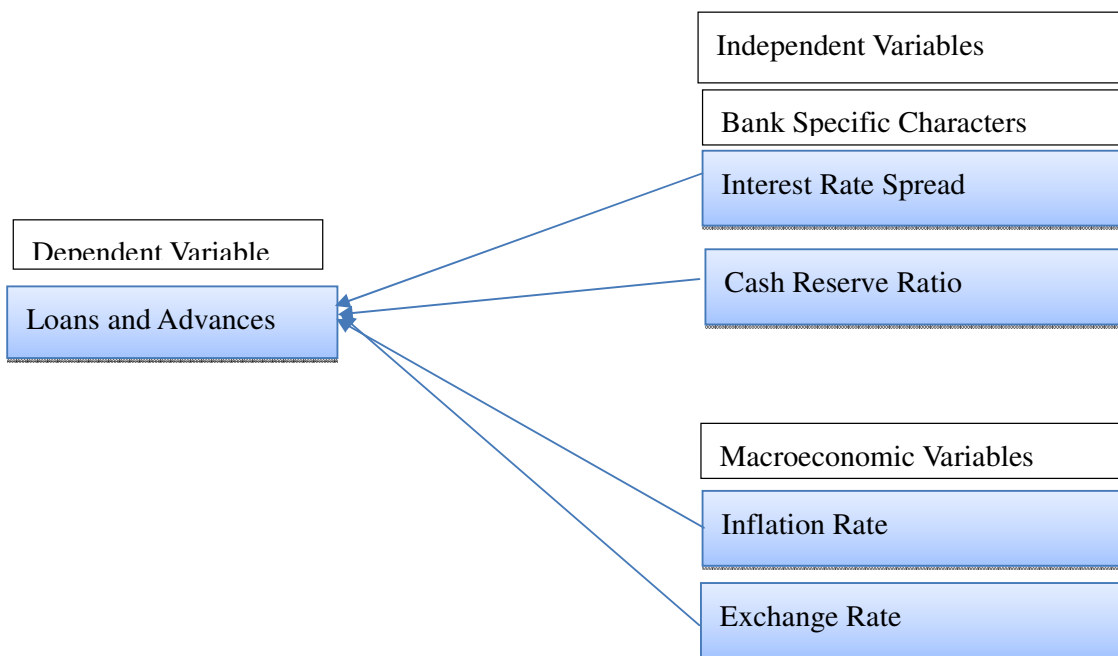
There are however, a few studies (Olokonyo, 2011 and Olumuyiwa, 2012) that have been done in the less developed financial markets. Similarly, studies on the determinants of lending behavior of banks in the Nepali financial market are hardly available with the only existing one only addressing a few variables (Bhattarai, 2016; Timsina, 2016). Majority of studies conducted in Nepal focus on the determinants of interest rate spreads among the commercial banks (Bhattarai, 2016; Timsina 2016). This study intends to fill the empirical as well as the methodological gap since most studies including the one done in Nepal without addressing the relevant estimation bias. This study thus employed panel data analysis technique in estimation which is more dynamic compared to cross-sectional and time series data.

Further, necessary tests were undertaken to validate the estimates.

Therefore, it is concluded that for fixed deposit also, there is no substitution effect at all. Thesis from predecessors and related books and journals were collected, studied and reviewed for the literature review. This could not be the sufficient study even I have made my possible effort to bring the best study as far as my capability. This study includes the variables like interest rate spread, exchange rate, liquidity ratio and inflation and their interrelationships. Moreover, the study will also focus on the behavior of the lending from the commercial banks along with the changes in these explanatory variables. I want to prove that this research is an original and one should be the foundation for the future researchers to know about the assessment of these variables of Commercial Banks and their impact on lending operations. Future researchers are requested to research about the different factors influencing interest rate like maturity period, capital adequacy, growth in the national economy in terms of Gross Domestic Product (GDP), volume of deposits, size of the bank etc.

With the literature review a conceptual framework for this study is developed by exploring the relationship between the dependent variable (Loans and Advances), bank specific variables (Interest Rate Spread and Cash Reserve Ratio) and macroeconomic variables (inflation rate and exchange rate). The conceptual framework of the study, therefore, is presented hereby in the following figure.

Figure 2.1: Conceptual Framework



Source: Conceptual Framework Developed by Researcher (2019)

Research Methodology

This study is based on the secondary data of ten sample commercial banks over the period of six fiscal years starting from 2012/13 till 2017/18. The data in general were of two major sources of origin i.e. bank related variables and macroeconomic variables. The bank related variables have been obtained from the

annual reports of the commercial banks sampled for this study. In contrast, the macroeconomic data have been collected from the monetary policy and economic surveys conducted by Nepal Rastra Bank every year during the years we have studied. The variable for which data have been collected are total loans and advances of the sampled banks, average interest rate spread, cash reserve ratio or statutory liquidity ratio, exchange rate and inflation rate.

A sample of 10 commercial banks has been taken out of 28 commercial banks. Moreover, in selecting the banks for the study due care has been given to include the mixture of joint venture and private banks, best performers as well as average performer.

Table 1: Banks Selected for the Study

SN	Name of the Bank	Study Period	Observations
1	Nepal Investment Bank Limited	2012/13-2017/18	6
2	Nabil Bank Limited	2012/13-2017/18	6
3	Bank of Kathmandu Limited	2012/13-2017/18	6
4	Mega Bank Limited	2012/13-2017/18	6
5	NIC Asia Bank Limited	2012/13-2017/18	6
6	Himalayan Bank Limited	2012/13-2017/18	6
7	Nepal Bangladesh Bank Limited	2012/13-2017/18	6
8	Standard Chartered Bank Limited	2012/13-2017/18	6
9	Everest Bank Limited	2012/13-2017/18	6
10	Nepal SBI Bank Limited	2012/13-2017/18	6
Total			60

These commercial banks are very popular in the market. There are many other commercial banks; samples cover only two because ownership of the bank, size of the capital and establishment period is taken into consideration. All these banks in the sample are operating for more than 10 years. So, these both banks are competitors. Therefore, owing to future impacts of these banks on Nepali money market, they have been selected for study in interest rate structure and its impact on lending.

The Model

This study adopted the model employed by Olokoyo (2011) and Malede (2014) whereby all commercial banks are considered for the defined period of time (six years). The model captures how different bank specific variables as well as macroeconomic variables feed into the overall bank lending operations. The study specified a model linking factors influencing lending behavior of commercial banks which includes bank specific characteristics and macroeconomic variables. For the vector of banks specific variables, we have interest rates spread, liquidity ratio, inflation ratio, and exchange rate.

The empirical model is defined as shown below:

$$\ln Loans_{it} = \alpha + \beta_1 IRS_{it} + \beta_2 SLR_{it} + \beta_3 EXR_{it} + \beta_4 Inf_{it} + \varepsilon_{it}$$

Where:

α = Intercept/constant term

$\ln Loans$ = Natural logarithm of the total loans and advances

IRS = Interest rate spread

SLR = Statutory liquidity ratio or the cash reserve requirement

EXR = Exchange rate on the last day of the each reporting fiscal year

Inf = Inflation rate indicated by the economic survey

ε_{it} = error term of the stochastic model

Betas (β) are the parameters of the models.

In addition, we note that $i = 1, 2, 3, \dots, 10$ since we are analyzing ten commercial banks while $t = 1, 2, \dots, 6$ since our analysis captures six years from 2012/13 – 2017/18.

Variables and Hypothesis

In this study total loans and advances is taken as dependent variable and bank specific variables (interest rate spread and cash reserve ratio) and macroeconomic variables (inflation rate and exchange rate) are taken as explanatory or independent variables.

Dependent Variable

A variable is said to be dependent variable if its values depend upon other variables. The purpose is to study, analyze and predict the variability in the dependent variable. The dependent variable of this study is total loans and advances.

Loans and advances

Loans and advances are explained in terms of the commercial banks' lending part of their deposits in the form of a number of credit schemes. In addition, the amount lent by the lender to the borrower for a specific purpose like the construction of the building, capital requirements, purchase of machinery and so on, for a particular period of time is known as Loan. In general, loans are granted by the banks and financial institutions. It is an obligation which needs to be repaid back after the expiry of the stipulated period. The loan carries an interest rate on the debt advanced. Before advancing loans, the lending institution checks the credit report of the customer, to know about his credibility, financial position and capacity to pay. Loan is classified as secured or unsecured based on security or demand, time or instalment loan based on the repayment mode or home, vehicle, commercial, educational etc. based on the purpose it has been rendered. Likewise, advances are the source of finance, which is provided by the banks to the companies to meet the short-term financial requirement. It is a credit facility which should be repaid within one year as per the terms, conditions and norms issued by Nepal Rastra Bank for lending and also by the schemes of the concerned bank. They are granted against securities which are as under either primary security or collateral security or guarantees. In addition, bank advances are either short term loans, overdraft, cash-credit or bills purchased.

Independent Variables

A variable is called independent variable if its value is not influenced by any other variable under the study. Any change in independent variable rather leads to changes in the dependent variables. Thus, the independent variables are those, which are used as basis of prediction and the dependent variable is the variable that is being predicted. The study has been used bank specific and macroeconomic variables.

Bank Specific Variables

Interest Rate Spread (IRS)

In this respect, Timsina (2016) has found significant negative relationship between interest rate spread and total bank lending in the study. The study found out that as the interest rate spread tend to increase, either to enjoy the luxury granted by the central bank or in exploit the economic benefit of the less competitive market. Likewise, Bhattarai (2018) also indicated that interest rate spread has significant negative relationship with the investment portfolio of the commercial banks of Nepal. The interest rate spread measures the effectiveness of the bank in the intermediation function, where the bank borrows the fund at a lower rate of interest while, the same time, lend at higher level of interest rate. The spread also used to identify the intensity of competition among banks in the market. Higher positive interest rate spread shows the successfulness of the bank in collecting the funds at cheaper rate and granting them at higher rate. The higher interest rate spread is not possible for most banks in the time of strong competition. In this case bank management seeks to look for other new revenue generating services to its clients to make up the decreased spread. The interest rate spread is the differences in interest rate between the lending rate and its deposit rate. Based on the earlier empirical evidence-based research and studies, this study develops the following hypothesis:

H₁: Interest rate spread has a significant and negative impact on loans and advances

Cash Reserve Ratio (CRR)

Cash Reserve Ratio (CRR) is the percentage of deposits which commercial banks are required to keep as cash according to the directions of the central bank. The reserve ratio is an important tool of the monetary policy of an economy and plays an essential role in regulating the money supply. When the central bank wants to increase money supply in the economy, it lowers the reserve ratio. As a result, commercial banks have higher funds to disburse as loans, thereby increasing the money supply in an economy. On the other hand, for controlling inflation, the CRR is generally increased, thereby decreasing the lending power of banks, which in turn reduces the money supply in an economy. Based on the evidences this study develops the following hypothesis:

H₂: Cash Reserve Ratio (CRR) has significant and negative impact on loans and advances

Macroeconomic Variables

Inflation rate (INF)

Inflation is a quantitative measure of the rate at which the average price level of a basket of selected goods and services in an economy increases over a period of time. It is the constant rise in the general level of prices where a unit of currency buys less than it did in prior periods. Often expressed as a percentage, inflation indicates a decrease in the purchasing power of a nation's currency.

As prices rise, a single unit of currency loses value as it buys fewer goods and services. This loss of

purchasing power impacts the general cost of living for the common public which ultimately leads to a deceleration in economic growth. The consensus view among economists is that sustained inflation occurs when a nation's money supply growth outpaces economic growth. To combat this, a country's appropriate monetary authority, like the central bank, then takes the necessary measures to keep inflation within permissible limits and keep the economy running smoothly. Inflation is measured in a variety of ways depending upon the types of goods and services considered, and is the opposite of deflation which indicates a general decline occurring in prices for goods and services when the inflation rate falls below 0 percent. Based on the theoretical framework and empirical studies carried out earlier, this study develops the following hypothesis:

H₃: The inflation rate has significant and negative impact on loans and advances

Exchange rate

An exchange rate is the value of one nation's currency versus the currency of another nation or economic zone. For example, how many U.S. dollars does it take to buy one euro? Exchange rates can be Free Floating meaning it rises and falls due to changes in the foreign exchange market or Restricted Currencies where in some countries have restricted currencies, limiting their exchange to within the countries' borders. Also, a restricted currency can have its value set by the government. Example of this can be evidenced in the exchange rate patterns between the currencies of Nepal and India. Similar to this is Currency Peg in which a country will peg its currency to that of another nation. Likewise, the exchange rate can be Onshore vs. Offshore where exchange rates can also be different for the same country. In some cases, there is an onshore rate and an offshore rate. Generally, a more favorable exchange rate can often be found within a country's border versus outside its borders.

In addition, exchange rate can be either Spot or Forward where the exchange rates can have what is called a spot rate, or cash value, which is the current market value. Alternatively, an exchange rate may have a forward value, which is based on expectations for the currency to rise or fall versus its spot price. Forward rate values may fluctuate due to changes in expectations for future interest rates in one country versus another. Based on the studies carried out earlier this study develops the hypothesis as follows:

H₄: Exchange rate has significant and positive impact on loans and advances

Result and Conclusion

Descriptive Statistics

Table 2 shows that the average of total loan and advances, which for convenience of the analysis of the rest of the processes has been transformed logarithmically normally, was Rs. 52,684 million with a minimum of Rs 11,729 million and a maximum of Rs. 121,032 million. This huge range implies that the variables exhibit variability given the variance in the specified basic descriptive statistics. Statutory Liquidity Ratio and Interest Rate Spread were on average 16.0 percent and 4.4 percent with a standard deviation of 8.0 and 0.7 respectively. On assessing the Exchange Rate, the study found out that over time, the minimum exchange rate reported was Rs. 95.90 for each US Dollar and the highest reported was Rs. 109.94.

Table 2: Descriptive Statistics of the Study Variables

Variables	Scale of Measurement	N	Minimum	Maximum	Mean	Std. Error	Std. Deviation
Loans and Advances Mill	Rs Million	60	11729	121032	52684	3412	26432
Interest Rate Spread	%	60	2.8	7.1	4.4	0.1	0.7
Cash Reserve Ratio	%	60	5.5	37.5	16.0	1.0	8.0
Exchange Rate	Rs	60	95.9	110.0	102.1	0.7	5.2
Inflation rate	%	60	4.5	9.9	7.8	0.26	2.1

Source: Results are drawn from SPSS 23.0

Further, the inflation rate also varied during these six years' period between the lowest of 4.5 percent and the highest of 9.9 percent with the average of 7.75 percent and the standard deviation of 2.06 percent.

The results of the table above show that variation in the loan and advances over these years under the study. The major reason behind this is largely due to the relatively short history of some of the banks e.g. Mega Bank Limited which grew remarkably during the latter years in the study (Mega, 2018). In contrast the volume of lending of relatively established banks like Nabil Bank Limited and Nepal Investment Bank Limited were already high and way above the levels of the rest of the banks. This could consequently lead to skewed presentation of the analysis of the data and hence these values have been logarithmically transformed to their normal base of e and is used for the further analysis e.g. correlation and regression.

Correlation Analysis

Correlation analysis is used to determine the extent of the correlation of different pairs of variables under study. It measures/calculates the correlation coefficient between 1 and -1. This further predicts presence or absence of multicollinearity which is considered to exist when there is perfect linear relationship between the variables under the study. The correlation matrix was used to determine if any pair of independent variables was highly collinear through the magnitude of the correlation coefficient of the pairs of variables established. This bias arises when one or more pairs of independent variables are perfectly correlated to each other. Most pairs were found to be highly correlated leading multicollinearity.

Table 3: Correlation Matrix of Study Variables (N=60)

Variables	Statutory Liquidity Rate	Exchange Rate	Interest Rate Spread	Inflation	Loans and Advances (in Rs. million)
Statutory Liquidity Rate	1				
Exchange Rate	-.230	1			
Interest Rate Spread	.117	-.234	1		
Inflation	.051	-.440**	.154	1	

Loans and Advances (in million rupees)	-.058	.628**	-.091	-.478**	1
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** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Source: Results are drawn from SPSS 23.0

According to Kennedy (2008), multicollinearity becomes a problem if the correlation coefficient is more than 0. The data collected during the study was subjected to Pearson correlation analysis. As indicated in Table 3, the study found that a pair had a correlation of more than 0.5 which is the threshold to permit retaining of those variables. Therefore, to correct the same, the LoA has, as mentioned earlier, been transformed to its log linear normal for further analysis. For the rest of the variables, the correlation analysis showed mixed results. The liquidity ratio seemed to have slightly negatively correlated with the exchange rate, interest rate spread and loan and advances. This means that as the liquidity ratio tends to increase, there seems to be an evidence of exchange rate, interest rate spread and loan and advance to recede. Similar results were recorded during the study conducted by Bhattarai (2016) where he found that liquidity ratio correlated negatively with the capital reserve and bank size, somehow collaborating indicators to exchange rates and interest rate spread. In contrast, Eke (2015) reported from his study in Nigeria that there seems to be higher IRS only when there are trends of increasing exchange rate and interest rate spread but with decreasing inflation. This phenomenon could better be conceptualized with the affinity of the borrowers towards low risk of inflation as the major investment these days have, in one way or the other, related to international trade and market. Likewise, the exchange rate of the local currency i.e. Nepali Rupees to that of US dollars seemed to have strong positive correlation with the amount of loans and investment ($p > 0.01$) meaning there is a greater chance that had the rate of exchange a dollar can fetch in terms of local currency, there is a strong tendency of the borrowers/customers to get loans from the commercial banks.

Regression Analysis

The lending operations of the selected commercial banks has been studied as a component of cause and effect relationship using regression techniques. The table below is the summary of such relationships that exist for each of the determinants or the drivers of the lending operations in these banks as a product of multiple regression modelling adopting the empirical model that has been mentioned in the third chapter using the statistical software IBM Statistics SPSS™ Verion 23.0. The table 4 showcase the coefficients of exchange rate and that of the volume of lending to be highly significant with the level of significance below 0.01 indicating that with every unit change in the exchange rate the volume of the lending and the behavior of the banks in reciprocating such change in their lending operations is evident in almost all cases. In terms of interest rate spread and liquidity rate there exist a good degree of direct and positive relationship with that of the volume of credit. However, these relationships could not be qualified as statistically significant owing to their P values slightly above the threshold of 0.05. In a study carried out in 2016 by Timsina, she also discovered that the exchange rates have positive impact on the private sector credit which she deemed as theoretically correct though the impacts measured were not significant in statistical terms.

In yet another study conducted in Nigeria, the results were different for exchange rate in defining the volume of lending by the commercial banks owing to variation in terms of regulation put as statutory provisions in putting forth the interest rates by the central banks (Eke et. al., 2015). Their results indicate that the relationship of the exchange rate with that of the volume of lending is negatively proportional to the exchange rate while there was a regulated provision in governing the rates of interest while at the same time the opposite phenomenon becomes visible when there is a deregulated provisions put forth by the central bank.

Table 4: Determinants of Lending of Sample Commercial Banks in Nepal.

Variables	Coefficient				Collinearity Statistics	
	s	Std. Error	t	Sig.	Tolerance	VIF
Constant	18.945	1.469	12.897	.000		
Interest Rate Spread	.048	.078	.620	.538	.937	1.067
Liquidity Rate	.007	.007	1.058	.295	.939	1.065
Exchange Rate	.057	.012	4.655	.000	.742	1.348
Inflation	-.064	.030	-2.132	.037	.801	1.249
No. of observation=60, $R^2=.662$, Adjusted $R^2=0.397$, F-value 10.726, F(Sig)=0.001						

Source: Results are drawn from SPSS 23.0

In contrast, the rate of inflation has shown negative relationship with the lending operation of the commercial banks. This means that the banks tend to keep their volume of lending low whenever there seems that inflation to be higher or in increasing trend. Though there could not be seen any significance of the relationship statistically, the table 4 suggest that there seems the negative coefficient of -0.068. Similar results were obtained during her studies of Timsina (2016). She has also indicated that inflation has negative impact on the real private sector credit and also supported the result as theoretically correct despite the fact that the coefficient was again not significant statistically. In her study, she had indicated that liquidity ratio as the key indicator for the commercial banks to invariably look for. In general, inverse relationship between banks' liquid assets to both lending operations as well deposit is visible. This is evident with the stricken capacity of the banks in expanding the credit whenever the central bank puts on obligation for the increased liquidity of assets.

Summary and Conclusions

The importance of banking industry is demonstrated by the growth of financial sector in relation to growth of the entire economy. The banking industry in Nepal has grown tremendously. Lending, through interest rates on loans and advances, is fundamental for this growth and it is a major source of the bank's income. Equally, the industry has faced shocks such as the credit crunch that led to compulsory merger among the banks. The main objective of this study was to establish the determinants

of lending operations among commercial banks in Nepal. Specifically, the study sought to explore the effect of bank specific characteristics and to identify external factors that determine commercial banks' lending behavior in Nepal. Secondary panel data was used that covered a period of six years (2012/13-2017/18) of the major ten commercial banks to examine factors associated with lending behavior of in Nepal. From the estimation results, it was found that liquidity ratio, interest rate spread and exchange rate were significant in determining lending behavior in Nepal's commercial banks. The positive effect of exchange rate infers that commercial banks in Nepal have sufficient insights into the international market and trade and that they are prepared to meet short-term and long-term commitments. Inflation maintained by the central economic policy has a positive and significant influence on lending volumes among commercial banks in Nepal. Likewise, the findings showed interest rate spread negatively and significantly on total loans advanced to individual and institutions. This implies that as the cost of borrowing increases, banks significantly increase credit supply in the market. However, there seems a greater deal of reluctance from among the borrowers to get more credit in such situations. During periods of economic stagnation, majority of loans become non-performing and thus constraining credit available to private sector.

This study concentrated on exploring the determinants of lending behavior of the commercial banks in Nepal with a focus on bank and external factors. There is need for consideration of more other factors in future studies like political environment as well as other socioeconomic environment. Other aspects of apex management including the diligence of board of directors and firm characteristics are essential. Similar comparative study is required in different trading blocs like the comparative studies with that of the neighboring countries especially those belonging to SAARC region among others.

REFERENCES

- Bajracharya, B.C. (2000). Business Statistics & Mathematics. Kathmandu: M.K Publishers & Distribution.
- Bhandari D.R. (2004). Banking and Insurance: Principle and Practice. Kathmandu: Ayush Publication. NRB Economic Review.
- Bhattarai B.P. (2018). Impact of Bank Specific and Macroeconomic Variables on Investment of Commercial Banks in Nepal. International Journal of Management and Applied Science, 4(4), 8-13.
- Bhattarai, Y.R. (2016). Effect of Credit Risk on the Performance of Nepalese Commercial Banks. NRB Economic Review, 28(1), 41-64.
- Chaulagai, M. (2009). Cash & Liquidity Management of Commercial Banks in Nepal. Kathmandu: An Unpublished Master Degree Thesis, Submitted to Faculty of Management, T.U.
- Cole, R. A., Goldberg, L. G., and White L. J., (2004). Cookie-cutter versus character. The micro structure of small business lending by large and small banks. Journal of Financial and Quantitative Analysis, 39(2), 227-251.
- Dahal, S. & Dahal, B. (2002). A Handbook of Banking. Kathmandu: Publisher Asmita Books and Stationery.
- Dangol, R.M (1995). Theory and Practice of Financial Management. Kathmandu: Publisher Taleju Prakashan.

- Eke, F.A., Eke, I.C. and Inyand O.G. (2015). Interest Rate and Commercial Banks' Lending Operations in Nigeria: A Structural Break Analysis using Chow Test. *Global Journal of Social Sciences*. 14, 9-22
- Ehrmann M., Gambacorta L., Martinez P.J., Sevestre P. and Worms A. (2003). Financial Systems and the Role of Banks in Monetary Policy Transmission in the Euro Area. In Angeloni I., Kashyap A. and Mojon B., *Monetary Policy Transmission in the Euro Area*, Cambridge, Cambridge University Press.
- Gadtaula, M.R. (2009). Liquidity Management of Nepal Development Bank Ltd. and Development Credit Bank Ltd. Kathmandu: An Unpublished Master Degree Thesis, Submitted to Faculty of Management, T.U.
- Giri, D. (2005). Investment & liquidity Management of Insurance Companies. Kathmandu: An Unpublished Master Degree Thesis, Submitted to Faculty of Management, T.U.
- Karim, A., Azman-Saini, Z. W. and Abdul, K. B. (2011). Bank lending channel of monetary policy. *Journal of Asia-Pacific Business*, 12(3), 225-243.
- Khadka, S. & Singh, H.B. (2058). Banking and Insurance: Principle, Legislation and Practice. Kathmandu: Nabin Prakashan.
- Khan, M.Y & Jain, P.K. (1981). Financial Management. New Delhi: Tata McGraw Hill Publishing Ltd.
- Kharel, S.R. (2008). Liquidity Management of Finance Companies of Nepal. Kathmandu: An Unpublished Master Degree Thesis, Submitted to Faculty of Management, T.U.
- Maharjan, B.L. (2009). Liquidity Management of Commercial Banks of Nepal. Kathmandu: An Unpublished Master Degree Thesis, Submitted to Faculty of Management, T.U.
- Malede, M (2014). Determinants of commercial Banks lending: evidence from Ethiopian commercial banks, *Journal of Business and Management*, 6(20).
- Miller, M.H. & Orr (1966). Model for the Demand for Money by Firms. *Quarterly Journal of Economics*.
- Nepal Bangladesh Bank Limited (2012/13 to 2017/18). Annual Report. Kathmandu.
- Nepal Rastra Bank (2018). Banking and Financial Statistics. Kathmandu. Banking and Financial Institution Regulation Department, Statistics Department.
- Ngomsi, A and Djiogap, F. (2012). Determinants of Bank Long-term Lending Behavior in the Central African Economic and Monetary Community (CEMAC). *Review of Economics & Finance*. 107-114.
- NRB Bulletin (2018). List of Banks and Financial Institutions. Nepal Rastra Bank. Accessed at https://www.nrb.org.np/bfr/bfi_list/List%20of%20BFIs_July2018.pdf
- Obamuyi T.M. (2013). An Analysis of the deposits and lending behaviours of Banks in Nigeria. *International Journal of Engineering and Management Sciences*. 4(1). 46-54.
- Obamuyi, T.M. (2013). Factors influencing investment decisions in Capital Market: A Study of individual investors in Nigeria. *Organizations and Market in Emerging Economies* 4(1), 141-161.
- Olokoyo, F. O. (2011). Determinants of Commercial Banks' Lending Behavior in Nigeria. *International Journal of Financial*

Research 2(2), 61-72.

Olumuyiwa, O. S., Oluwatosin, O. A. and Chukwuemeka, O. E. (2012). Determinants of Lending Behaviour of Commercial Banks: Evidence from Nigeria, a Co-Integration Analysis. *Journal of Humanities and Social Science*, 5(5), 71-80.

Olweny, T and Shipho, T.M (2011). Effects of Banking Sectoral Factors on the profitability of commercial banks in Kenya. *Economics and Finance Review* 1(5). 01 – 30.

Pokharel, B.B. & Gautam, U.R. (2061). *Fundamentals of Financial Management*. Kathmandu: M.K. Publishers & Distributors.

Radhashwami, M. & Bashudevan, S.V. (1976). *A Text Book of Banking*. New Delhi: Publisher S. Chand & Company.

Reed, E.W. (2002). *Commercial Bank Management*. New York: Prentice Hall.

Rose, P.S. (2002). *Commercial Bank Management*. (5th edition). New Delhi: International Edition, Irwin McGraw Hill.

Shrestah, M.K. (2004). *Working Capital Management in Public Enterprises*. Kathmandu: ISDOC.

Shrestha, L.K. (2008). *A Study of Cash Management of Nepalese Joint Venture Bank*. Kathmandu: An Unpublished Master Degree Thesis, Submitted to Faculty of Management, T.U.

Shrestha, M.K. & Bhandari, D.B. (2061). *Financial Market & Institution*. Kathmandu: Asmita Books Publishers & Distributors

Shrestha, R. (2007). *Liquidity management of NABIL Bank Ltd*. Kathmandu: Master Degree Thesis, Submitted to Faculty of Management, T.U.

Thapa, K. & Neupane, D.K. (2065). *Banking and Insurance*. Kathmandu: Asmita Books and Stationery.

Thapa, U.B. (2004). *Liquidity Management: Practice Before and After Financial Sector reform programme in Nepal Bank Limited*. Kathmandu: An Unpublished Master Degree Thesis, Submitted to Faculty of Management, T.U.

Timsina, N (2016). Determinants of Bank Lending Behavior in Nepal. *The International Journal of Business and Management* 4(8), 64-77.

Vazakidis, A. and Adamopoulos, A. (2009). Credit market development and economic growth, *American Journal of Economics and Business Administration*, 1(1), 34-40.

Weston, J.F. & Brigham, E.F. (1987). *Essentials of Managerial Finance*. Orlando: The Dryden Press.



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