COVID-19 Pandemic in India
Creativity in Jordanian Commercial Banks
Insurance Industry of Sri Lanka
Dimensions of the Strategic Role

Highlights

Discovering Thoughts, Inventing Future

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The Impact of the Dimensions of the Strategic Role of Human Resources on the Level of Creativity in Jordanian Commercial Banks in the Northern Region

By Hamzeh Mohamed Alhawamdeh, Ala’ Mohammad Rabi, Hani Ali AlRawashdeh & Suleiman Mustafa El-Dalahmeh

Abstract- The study aimed at examining the impact of the three dimensions of the strategic role of human resources management, namely planning, polarization, selection and recruitment, on the creativity of commercial bank employees in Jordanian commercial banks. One hundred five survey lists were analyzed as a sample for the study with a response rate of 88.98 percent that was valid for statistical analysis.

The study revealed a number of results, the most important of which is the existence of a positive significant relationship between each of the following: Human resource planning, the dimension of human resource recruitment, and the dimension of selection and appointment of human resources alone and the dependent variable creativity as well as positive and intrinsic dimensions with the three coefficients.

The study recommended supporting the dissemination of the spirit of creativity among all levels of management in commercial banks through training courses and supporting them with the necessary authorities to achieve this, as well as encouraging them to suggest ideas that aim at improving their talents.

Keywords: the strategic role of human resources - creativity – jordanian commercial banks.

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I. Introduction

Competition is increasing in our contemporary world between different organizations and related to the following activities. In light of the rapidly growing technological developments, which require human resources with specifications distinct in order to fit and correspond to those variables. It has been proven to be effective in acting management, statement and management Organizations concerned with automation and development: The efficiency of the organization as a whole (al-Farhan, 2018).

The strategic role of human response is the transfer of those resources in the organization from the prevailing situation at present to the hoped-for situation in the future, through planning the strategic needs of resources with the coordination of its tasks and objectives of the organizations. The success of managing the human resources who perform the role requires concerted efforts. The level of the organization by supporting the senior management of the role of the human resources department in its decisions. In addition to providing the required information to the managers of that department, it helps them to do In their roles (Sprineh2019).

In light of the importance of the face of contemporary organizations and the challenges faced in today's world quickly and efficiently and effectively, it requires creative capabilities of high-yield new ideas and views allow those organizations to continue and grow in light of the fierce competition and the information revolution, which faced and thus increasing the importance of creativity (Shatnawi, 2016). Therefore, the current study sheds light on the impact of the dimensions of the strategic role of human resources on the level of creativity among employees in Jordanian commercial banks in the northern region.

II. Theoretical Framework and Previous Studies

a) Human Resources Management

The responsibility of human resource management has become of great importance; It depends on the organization's future strategy, which requires preparing and adapting its general strategies to accommodate the internal and external changes in the environment, and for the sake of evaluating them (Samara, 2014).

The organization's ability to develop internally consistent formations with multiple alternatives of human resource management practices enables it to implement its strategies that achieve superiority over competitors, (Gilani et, al, 2012).

From here the concept of systemic integration of the functions of human resources management based on of strategic terms based this concept on communication and interaction functions of human resources management with each other with the impact and vulnerability to the surrounding environment derives from this concept are two levels of harmonization necessary to achieve those objectives and desired.
Horizontal alignment: It achieves coherence and integration between strategies for human resource management.

Vertical alignment: which requires achieving coherence and integration between human resource strategies and the general strategy of the organization, a study (Al-Zahrani, 2012).

b) Creativity

Defined as a mental process leading to solutions and ideas, methods, concepts, and products are characterized by exclusivity and modernity (Zhrani 2012).

(Ahmad& AL-mubaidin2013) confirmed that he expressed a range of skills that characterized individual so of distinct design idea workable with the aim of developing a system of work implemented already efficiently and effectively in an organization achieve a competitive advantage to support the capabilities of that organization in the competitive environment the external surroundings.

Hence, the concept of creativity differs from the concept of creative behavior, which refers to the presence of distinct behavioral patterns that appear in the environment of the organization and do not necessarily result in new goods and services, Still may It is an innovation in itself when it is applied for the first time in the organization through the individuals working for it. And then represents the overall changes that occur in the activities and methods of administration, which tracked what including Organization to achieve its objectives as a creative career solves many of the problems that may be faced by that organization through the human element which should be a skill of creative distinct. (Sprineh, 2019) in facilitating administrative processes, allowing the creation of innovative solutions to the problems of production, performance, and loyalty functional improvement, and reduce the turnover of work to achieve functional stability, and supports the competitive advantage of the creative organization, including ideas And new working methods that contribute to the development and investment of the intellectual and mental capabilities of its employees.

c) The strategic role of human resources

The responsibility of human resources management has become of great importance, as it aims to prepare its strategies to cope with external and external environmental changes. The study (Gustaffson & Zotto, 2010) made it clear that they are considered as a set of primary and assisting practices, where the work and priority is the first choice. The second lies in the design of incentive systems, performance appraisal, and training. This explains the overlap of human resource management practices with all other departments in business organizations, which requires

the management of human resources. Accordingly, the strategic role of these resources represents the stages through which the human resource management practices used by the study are transferred from the current situation to the emergency. In the light of the vision of those organizations, this role includes the following steps:

d) Human resource planning

It relies on the prediction of the needs of the organization of human resources quantitatively and qualitatively GTA planning to fill job vacancies to achieve the objectives of short-organized and long-term through comparative B planners and available from full We operating current of the identifying gap which will be of the Ala Amylin, Thus, the human resource planning process enhances the importance of human resources as the most important strategic resource for the organization.(Ahmad & AL-Mubaidin, 2013).

e) Attracting human resources

These are the policies followed by the Jordanian commercial banks through them to attract qualified and prospective individuals to work within their departments to satisfy the needs of the two parties "applicant for the job".

f) Selection and appointment of human resources

Mechanisms followed by Jordanian commercial banks that ensure the placement of the right human resource with the creative capabilities required to be available in the available jobs in the various departments of the bank in the appropriate organizational position, and based on of the idea of “teamwork”(Tan and Nasurdi, 2010) indicated to test the relationship between human resource management practices “performance appraisal, job management, training, reward and motivation, and employment” and between organizational and organizational creativity in the administrative and administrative staff. Knowledge as a mediating variable, the study concluded that human resource management practices play an important role in enhancing organizational creativity among workers in the sample organizations.

Also targeted (Foss and Laursen 2017) test the impact of the human resources management of modern on promoting creativity outcomes among workers in Indian organizations, the study found to have a significant effect of statistical practices of human resources management in promoting creativity organizational among employees, where he was to motivate staff development capabilities The biggest effect is followed by polarization.

A study (Fota and Qutb, 2013) showed the extent to which eight practices of human resource management are applied, which are “job analysis, human resource planning, recruitment, training and development, management and placement, and
place, and appraisal on the administration and placement of learning and growth represented by the performance of employees, improve internal banks of Jordan, and the study found a set of results an application resource management practices of human eight on a sample survey of Jordanian commercial banks high degree and was a racist training and development, and Empowerment has the greatest impact on learning and development.

(Azzam, 2014) it has shown the impact of the adoption of strategies for managing talent in organizations in the sample of Pediatric Hospital staff, the study concluded that a set of results and having the effect of statistically significant strategies for talent management in the dimensions of achieving the competitive advantage of quality, innovation and excellence, and The variable talent development strategy is the most influential in achieving competitive advantage among the study sample in the hospital.

The study (Maes & Winne, 2014) aimed to test the effect of each of the creativity and human resource management practices in promoting entrepreneurship among workers in small projects in Canada, in a selected sample of those projects, Creativity, in addition to the fact that organizational creativity has a strong impact in promoting entrepreneurship among workers in the projects selected in the study sample.

(Munir & Quadra 2016) measuring the impact of strategic practices for human resources management, recruitment, training, performance assessment, motivation (in organizational change management and that application on a sample of Etisalat in Algeria, and the study found several results and an impact statistically significant such practices in the management of change regulatory Algerie telecom Foundation, the study also proposed several recommendations of which involve staff in the preparation of programs of change in the organization in order to avoid Obstacles with updated training programs in the light of contemporary changes as well as for new Astkhaddt with incentives linking them to performance.

(al-Awlaki.2018) analyse the nature of the direct relationship and indirect between strategies, human resources management and development of creativity organizational through the processes of knowledge management as a variable mediator in the sample selected from the commercial banks of Yemen, and showed a study group of results was the existence of a significant direct relationship between the practice of Strategies of human resource management in the commercial banks under study and the development of organizational creativity, and there is an indirect moral relationship between the practice of human resource management strategies in the sample of the study and the development of creativity and organizational innovation through organizational management.

(AbdulAziz & Khalil 2019) recognize the reality of human resources management in the Arab Toshiba and recognize the clarity and the importance of the impact of management of electronic human resource as one of the applications of administrative modern associated with the information revolution and modern technology, and the extent of their impact in activating and achieving quality in the performance of the functions of human resources in Arab Toshiba through total applications and represented the most important elements of human resources used in the study of polarization, selection and recruitment, training, performance assessment, planning human resources, the study suggested in its recommendations a set of policies required to implement the various human resources activities that need Organization The way to exercise its functions in light of the changing contemporary environment for businesses and organizations. (Abu Dalal, 2019) indicated the most important policies of human resources management represented in the policy of recruitment, selection, training, appreciation and their impact on retaining volunteers in non-profit charitable organizations.

(Siddiq 2019) to identify the level of innovation management among employees libraries Assiut University in addition to identifying obstacles to achieving management innovation through the study of the reality of these libraries and future planning Lea, with monitoring initiatives development management innovation to enhance the strengths and correct points weakness with the aim of development of innovation and creativity of based on human resources management.

The study (Altarawneh, 2016) aimed to explore the adoption of the approach of the strategic human resources management in the banks of the city of Abha in Saudi Arabia, in addition to a statement of the impact between the human resources management and the performance of those banks on the knowledge of what you know through the knowledge of The study reached several conclusions, the most important of which is the adoption of the study sample to the entrance of the strategic management of human resources because of its positive impact on its organizational performance, with the recommendation to conduct similar studies to identify the practices of human resources and other human resources management practices.

The study (Chennevert, 2016) aimed to identify the role of human resource management practices in the rate of work turnover of nurses through the dimensions of remuneration and the development of staff capabilities with giving them decentralized authority and information exchange. It is noted from the previous studies that:

- Diversity and difference of human resources management dimensions used in previous studies from the three dimensions used in the current study.
- The diversity of sampling sectors field used in previous studies, such as small and medium-sized organizations, industry organizations, Pediatric Hospitals, and hospitals operating in the city of Taif, Etisalat, charitable organizations, non-aiming to profit & CEO differs from the field of application in the current study.
- Some of the studies above studies focus on the elements of human resources management alone, part or all of them, and others on the level of innovation and administrative creativity alone, and others on one of the dimensions of the balanced scorecard in the multi-dimensional, while the graduate investment is moving away, one study.

III. Problem of the Study

Through meetings in-depth with some gentlemen directors branches of the Commercial Bank turned out to attend the senior management of the bank to provide their employees for creative ideas through meetings and training courses offered by them but this requires mechanisms is stable and continuous and regular basis by changing the roles of the strategy in the areas of planning and recruitment and selection of staff in all their categories, present and future. Therefore, The problem of the study lies in the importance of determining the impact of the strategic role of human resources in the three elements of the study on the level of creativity among employees of commercial banks in Jordanian Commercial Banks (Northern Region).

IV. Objectives of the Study

1. Indication of the availability of strategic roles with human resources in its three dimensions (planning Human resources, recruitment of human resources, selection and appointment of human resources) at the Department of Human Resources in Jordanian commercial banks in (Northern Region).
2. Indicating the extent to which the creativity level is available among those working in Jordanian commercial banks in Northern Region.
3. Statement of the impact of the strategic role of human resources on the creativity level of employees in Jordanian Commercial banks in Northern Region.
4. A statement of the statistical differences - if any - of the impact of the strategic role of human resources on the level of creativity among workers in Jordanian commercial banks in Northern Region.

V. Importance of the Study

a) Theoretical importance

Considers this study of the few studies - within the science researcher - that measure the effects of the multiple dimensions of the strategic role of the three human resource namely planning, polarization, and the selection and appointment to the level of creativity among employees in one of the Jordanian commercial banks in Northern Region which is a province. In addition, scientific science administrative subject of the study. In addition to. being a starting point for other studies and research in this field, whether by application to other sectors other than the applied sector for study or the use of intermediate or dependent variables.

b) Practical importance

To the findings and recommendations of the study, the current decision-makers in one of the important sectors in the national economy of any state banking sector to increase its officer’s awareness in that sector of the importance of strengthening and enhancing the level of creativity among workers in the sector, which means the availability of human distinct contribute positively resources to raise the level of performance and therefore Business results for the important sector of study, which represents a practical and operational mechanism for the economic development plans of the state.

The management of human resources in the banking sector, which was targeted by the study, represents the endeavor to manage the most important assets owned by it, which are the human resources that work in it, whether they are managers or subordinates, whether male or female employees. It drives them towards creativity in their work through the climate created by their leaders and their various business regulations towards this desired goal.

c) Hypothesis of study

The first hypothesis: There is a positive statistically significant relationship to the strategic role of human resources in attracting human resources at the level of creativity of employees in Jordanian commercial banks.

The second hypothesis: There is a positive, statistically significant relationship to the strategic role of human resources in attracting human resources at the level of creativity among those working in Jordanian commercial banks.

The third hypothesis: There is a positive statistically significant relationship to the strategic role of human resources in attracting human resources at the level of creativity among those working in Jordanian commercial banks.

The fourth hypothesis: There is a positive statistically significant relationship to the strategic role of human resources in its three dimensions at the level of creativity among those working in Jordanian commercial banks.
specific variables which are the dimensions of the strategic role of human resources and the level of creativity.

ii. Methodology

To achieve the objectives of this study, a questionnaire distributed on 150 employees in Jordanian commercial banks in the Northern region returned with a rate of 70%.

The study population and its sample: The study population consists of branches of Jordanian commercial banks operating in the Northern region, including the Housing Bank, Jordan Kuwait Bank, Jordan Ahli Bank, Cairo Amman Bank, Union Bank, Arab Bank, Jordan Commercial Bank, Investment Bank. The researchers relied on the random sample due to the specificity of this study.

Study variables and how to measure them: The study included the following variables, the strategic role of human resources in its three dimensions as an independent variable, and the level of creativity as a dependent variable. Those variables were measured as follows:

Independent variable: the strategic role of human resources.
1. The dimension of human resources planning is 1-7
2. The dimension of attracting human resources, the phrase from 8 to 15
3. The dimension of selection and appointment of human resources Phrase from 16-23 Dependent variable: level of creativity Phrases from 24-30.

A five-point Likert scale was used, ranging from No. (1), which means not at all, to No. (5), which means very agree.

These variables have been selected based on several previous scientific studies, including (Al-Awlaki 2018); Fota, 2013; and Kor & Maden, study. (2013) and study (Ozbag, 2013) and study (Abu Dala, Ramijamil, 2019) and a study (Abdulaziz & Khalil 2019).

iii. Study population and sample

The study community includes employees with administrative positions in their branches Jordanian commercial banks, such as (branch manager, deputy director, administration manager, banker A, banker B), which is a multi-purpose distribution. and the support level of creativity among employees and including a positive impact on the level of their performance was the use of a sample basis; This is due to the difficulty of collecting data through the method.

A comprehensive and a simple random sample selected from the research community, and they are the ones who occupy Managerial positions in Jordanian Commercial Banks consist of 118 people according to statistical tables.

For a community of 170 people with a confidence coefficient (95%) and a level of significance (5%), a study (Adel, & Muhammad, 2013).

After completing the collection of survey lists, they were reviewed and the lists that were not suitable for statistical analysis were excluded, and the number of correct questions was (105) survey with a response rate of 88.98 percent of the total number of valid surveys in the surveyed population. Deputy Director, Department Manager, Banker A, Banker B.

VI. Data Analysis Method

The data was tabulated, and analysed using a computer through the SPSS statistical program, and the following statistical methods were applied to analyze the data and test the study’s hypotheses:

Validity Coefficients of Cronbach’s Alpha Study Scales to test the reliability of the measurement instrument in the study. Correlation coefficients to identify the amount of correlation and significance of the relationship between variables. Simple regression analysis, which tests the effect of an independent variable on the dependent variable. Beta coefficient, which shows the strength and significance of the relationship between the study variables.

a) Testing the study hypotheses

Table 1: Validity coefficients for study scales

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<td>Human resource planning</td>
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<td>2</td>
<td>Recruitment of human resources</td>
<td>0.860</td>
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<tr>
<td>3</td>
<td>Selection and appointment of human</td>
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<td></td>
<td>resources</td>
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<td>4</td>
<td>Resources the three variables in total</td>
<td>0.910</td>
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<tr>
<td>5</td>
<td>Creativity</td>
<td>0.571</td>
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It is clear from the previous table that the validity coefficients of the study scales are high, which indicates the validity of these statements in their measurement of the study variables, as these statements measure what they are intended to measure.

Table 2: Correlation coefficients for study variables and descriptive statistics measures

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<th>Polarization resources humanity</th>
<th>Selection and set resources humanity</th>
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<th>Creativity</th>
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<td>After human resource planning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Resource Attraction Dimension</td>
<td>** 0.703</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimension of resources selection and assignment humanity</td>
<td>* * 0.541</td>
<td>* * 0.801</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The three variables in total</td>
<td>* * 0.809</td>
<td>** 0.957</td>
<td>** 0.863</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creativity</td>
<td>* * 0.721</td>
<td>** 0.676</td>
<td>** 0.292</td>
<td>0.639</td>
<td></td>
</tr>
<tr>
<td>Meaning</td>
<td>3.8830</td>
<td>3.7857</td>
<td>3.7749</td>
<td>3.6560</td>
<td>3.9388</td>
</tr>
</tbody>
</table>

Source: Statistical analysis of field study data by the researcher. P < 0.01

The results of the correlation analysis showed the existence of a correlation between the study variables, as follows:
- There is a significant correlation between human resources planning and the dimension of attracting human resources with a value of 0.703.
- There is a significant correlation between the dimension of human resources selection and human resources planning, with a value of 0.541, and between the dimension of human resources selection and human resource recruitment, with a value of 0.80.
- There is a significant relationship between the strategic role of human resources in general and the dimension of human resources planning with a value of 0.809, and the recruitment of human resources with a value of 0.957, and a dimension of 0.86.
- There is a significant correlation between:
  - The human resource planning dimension and creativity level are valued at 0.721.
  - The dimension of human resource attraction and creativity level is 0.676.
  - The dimension of human resource selection and assignment and creativity level is 0.292.
  - The three dimensions of the strategic role of human resources and the level of creativity with a value of 0.639.

These results indicate, initially, to support the study’s hypotheses.

Table 3: Results of the hypotheses test

<table>
<thead>
<tr>
<th>Assignment number</th>
<th>The independent variables</th>
<th>Beta</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>first</td>
<td>Human resource planning</td>
<td>0.721</td>
<td>** 10.574</td>
</tr>
<tr>
<td>second</td>
<td>Recruitment of human resources Selection</td>
<td>0.676</td>
<td>** 9.321</td>
</tr>
<tr>
<td>third</td>
<td>Appointment of human resources</td>
<td>0.292</td>
<td>** 3.099</td>
</tr>
<tr>
<td>fourth</td>
<td>The strategic role of human resources in its three dimensions</td>
<td>0.639</td>
<td>** 8.438</td>
</tr>
</tbody>
</table>

Source: Statistical analysis of field study data by the researcher. P < 0.01

It is noted from the previous table that:
- The test study hypotheses through four regression models’ simple analysis Simple Regression was the independent variable in the first model is the planning of human resources. The independent variable in the second model is to attract human resources. The independent variable in the third model is the selection and appointment of human resources. The independent variable in the fourth model is the dimensions of the strategic role of the three human resources together.
- Significance of the relationship between the first independent variable and the dependent variable.
- Significance of the relationship between the second independent variable and the dependent variable.
- Significance of the relationship between the third independent variable and the dependent variable.
- Significance of the relationship between the fourth independent variable and the dependent variable.
VII. Analysis and Discussion of the Results of the Study

- The study results proved the positive significant relationship between the human resource planning dimension as an independent variable and creativity as a dependent variable. This result agreed with a study (Fota, 2013) (Abdul Aziz 2019), study (Angari 2014) indicating that the planning of human resources short, medium and long-term investing potential employees in the Commercial Bank and enhances the motivation to work in excess of Ant main for their work in the bank on the one hand and achieves a degree of integration between the strategic plans of the Bank and Strategy Human resources with its various activities on the other hand, which in turn enhances the level of creativity of these workers, especially in the case of their medium and long-term involvement with their banking business, which reinforces their Thus the first hypothesis is accepted.

- The study clarified an essential and positive relationship between the dimension of attracting human resources as an independent variable and creativity as a dependent variable. This result agreed with the study (Abdul-Aziz, 2019) and a study (Abu Dalal 2019) as to attract qualified cadres human to fill some jobs Commercial Bank raises provide the level of services to clients that the bank as a result of increasing the productivity of these cadres of human excellence thus enhancing the degree of creativity in the exercise of their work and thus the degree in the submission. Thus the second hypothesis is accepted.

- The results of the study confirmed a relationship after the selection and appointment of positive intrinsic human resources as an independent variable with creativity as a dependent variable. This result agreed with a study) of (Abdul-Aziz, 2019) and a study (Abu Dalal, 2019) in which achieving alignment between the work requirements in the commercial bank and the capabilities, skills, and specifications of the individual to choose the most suitable recruiting staff for recruiting staff. Transparency achieves in practice one of the basic functions of human resources management, Thus the third hypothesis is accepted.

- The study concluded with positive and significant results the relationship between the strategic role of human resources in its three dimensions and the level of creativity. These results agreed with the study (Tan & Nasurdin, 2010) (Maes, Al Zoubi, 2012, 2014) and a study (Foss, 2012) (Al-Awlaki, 2018) and (Altarawneh, 2016) (Siddiq, 2019) and a study (Fota & Mohieldin, 2013) which indicates the impact of each of those three dimensions of this strategic role in supporting and enhancing the level of creativity in the workplace. This is positively based on the level of their performance of the tasks they are entrusted to carry out within its various departments. Thus, the fourth hypothesis is accepted.

  a) On the theoretical level

- The study showed the positive significant relationship between the dimensions of the strategic role of the three human resources: planning, polarization, selection and appointment, each separately with the dependent variable creativity, and in general with the same variable.

- The study showed a significant correlation between the dimension of human resources planning and the dimension of polarization.

- The study also confirmed the existence of a significant relationship between the dimension of human resources selection and its planning, and the dimension of human resources selection and recruitment.

  b) On the practical level

- Develop specialized mechanisms that correspond to the nature of banking activity for implementation to enhance the role strategic human resources in the three components of the study: planning, attracting, selecting and assigning human resources because of their clear impact on enhancing the degree of creativity among commercial bank employees.

- Spreading the spirit of creativity and skills development among commercial bank employees through programs and training courses that support this trend.

- Providing all employees at all levels of administration in commercial banks with the necessary authorities to carry out their job tasks effectively, especially during the stages of dealing with crises and emergency problems.

- Supporting the participation of all employees of commercial banks in developing proposals for improvement in the various human resource management systems with the aim of discovering talents and talents, their talents and development.

VIII. Results

1. The results of the study showed a positive and moral relationship between the strategic role of human resources in its three dimensions and the level of creativity.

2. The results of the study indicate the impact of each of these three dimensions of this strategic role in strengthening and enhancing the level of creativity.
among workers in Jordanian commercial banks in the northern region.
3. The results of this study are in agreement with the results of previous studies such as the study of (Tarawneh 2016, MAES 2014, Siddaq 2019).
4. The results of the study showed a significant correlation between the dimension of human resource planning and the dimension of attracting human resources.

IX. Recommendations

1. Spreading the spirit of creativity and skills development among employees of Jordanian commercial banks in the northern region
2. Delegating more authority to all administrative levels for employees of Jordanian commercial banks in the northern region
3. We advise Jordanian colleges and universities to update and develop their curricula to reflect the extent of the need to reflect the changing needs of employers. This means that apart from the core programs that are taught, there should be additional classes offered to students where they can learn the programs used in the Jordanian commercial banks.

*Students who do not possess computer skills will not be able to fulfill the roles and expectations that are placed upon them by employers.

References Références Referencias

2. Abu Dalal, Rami Jamil (2019). The role of human resource management policies in retention Volunteers in non-profit charitable organizations: an applied study, non-profit master’s thesis Published, Faculty of Commerce, Cairo University.
9. Al-Zoubi, Mohammed Omar (2012). The requirements of the creative process related to human resource management: A field study on the managers of small and medium business organizations in Jordan, the magazine Jordan in Business Administration, Volume 8, Issue 2, pp. 327-352.


Supplements (questionnaire)

Section One: Please read each of the following statements, then put a tick (√) at the next degree. It reflects your point of view, and that is from grade 5 (which means that you are very agree, and grade 1 (which means that you are very agreeable). It means you don't agree at all.

<table>
<thead>
<tr>
<th>NA</th>
<th>Paragraph</th>
<th>Very Agree</th>
<th>Agree</th>
<th>Undefined</th>
<th>Not Agree</th>
<th>I don't agree at all</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The independent variable: the strategic role of human resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The first sub-dimension is &quot;Human Resource Planning&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>The bank analyses its needs based on human resources to its future directions.</td>
<td></td>
<td></td>
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<tr>
<td>2</td>
<td>The bank conducts an environmental analysis. It includes environment variables Internal vs. Variables. The external environment.</td>
<td></td>
<td></td>
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<tr>
<td>3</td>
<td>The bank uses scientific methods and up-to-date when conducting an analysis. Resource needs humanity.</td>
<td></td>
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<tr>
<td>4</td>
<td>The bank is drafting Resource Strategies. Humankind in light of the results. Environmental analysis.</td>
<td></td>
<td></td>
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<tr>
<td>5</td>
<td>The bank has rules. Data that includes all information related to its human resources in every administrative levels.</td>
<td></td>
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<tr>
<td>6</td>
<td>There is an integration between strategy. Bank and resource planning humankind to enhance its capabilities competitiveness.</td>
<td></td>
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<tr>
<td>7</td>
<td>One of the cornerstones is for human resource planning. Bank in business description precisely.</td>
<td></td>
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<td></td>
<td>The second sub-dimension is &quot;Attracting Human Resources&quot;.</td>
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<tr>
<td>8</td>
<td>The bank identifies the sources internal polarization Objective in a framework Planned strategy.</td>
<td></td>
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<tr>
<td>9</td>
<td>The bank identifies sources External polarization depending on his planned strategy.</td>
<td></td>
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<tr>
<td>10</td>
<td>The bank has a strategy A clear polarization policy.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>A strategy is formulated Polarization in the frame HR strategy to the bank.</td>
<td></td>
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<tr>
<td>12</td>
<td>The bank depends on the categories different age of youth When recruiting employees.</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>The Bank is keen to attract Capable human competencies to achieve its goals Planned strategy.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>14</td>
<td>The Bank seeks to obtain On the distinguished competencies at Fill his vacancies.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>15</td>
<td>The Bank seeks to implement Standards of fairness and objectivity when performing an operation polarization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Dilemmas and Suggestions of Open Source in Intellectual Property: Taking Blockchain as an Example

By Chen Xiaohong
Tsinghua University

Abstract- Open-source software has made a breakthrough in the traditional intellectual property theory from the aspects of Copyright, patent right, and trademark right, and it has created a new property rights form in the form of license. Taking blockchain as an example, this paper analyzes bitcoin and Ethereum and their open-source licensing strategies. At the same time, it explores the problems encountered in the property rights of open-source blockchain and three possible solutions to this dilemma: The industry-standard licensing plan, blockchain open-source licensing scheme, and open patent scheme. This research will be significant for expanding and enriching the theoretical and practical analysis of blockchain open source in the field of intellectual property.

Keywords: open source; blockchain; intellectual property rights; dilemmas; suggestions.

GJMBR-A Classification: JEL Code: M19

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Dilemmas and Suggestions of Open Source in Intellectual Property: Taking Blockchain as an Example

Chen Xiaohong

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I. Introduction

For a long time, intellectual property rights have been synonymous with encouraging knowledge production and protecting and promoting technological innovation. In particular, for enterprises and producers, applying for patents has become a powerful weapon to protect their legitimate rights and interests from infringement. However, with the arrival of the digital economy, the development of the Internet makes technology innovation more diverse and more complicated. The philosophy of “freedom, sharing and free” in open-source software makes people feel more and more doubt: Are there no drawbacks to intellectual property? When open-source software pursuing knowledge sharing meets intellectual property, can it protect the rights and interests of the original knowledge producers? This philosophical myth has attracted a lot of discussion and thinking in academia and industry.

Lawrence Lessig, a Stanford Law School professor, is a staunch opponent of the “Fundamentals of Intellectual Property Rights,” arguing that by copying the systems of Property Protection that exist in the real world, the Internet will undoubtedly change from open to closed. Hence, it will hinder the progress of human civilization and the prosperity and innovation of culture. The United States Public Patent Foundation has gradually realized that the abuse of patent rights may also hinder technological innovation in the opposite direction, so the organization was established to prevent and combat patent misapplication. Of course, open-source science and technology workers engaged in emerging industry forms and philosophical thinking even raised such doubts. If the original innovator who believed in open-source spirit did not apply for patents, but the secondary innovator who was the second innovation applied for patents, whether it would still promote technological innovation without any adverse effects.

Based on the theoretical and practical questions, this paper puts forward the following research questions: (1) What are the breakthroughs in intellectual property theory with the emergence of open-source software? What is the property protection system of open source itself? (2) When open-source software encounters intellectual property rights, is there a dilemma reflected in what aspects? (3) How to solve the property rights dilemma of open-source software, and what are the suggested solutions? Due to many open-source software projects, this paper will take the emerging open-source form of blockchain as a case study. Based on the literature review, this paper will analyze the open-source strategy of blockchain, the intellectual property dilemma encountered, and suggested solutions. Hopefully, it will contribute to the research and practice of open-source software in the field of intellectual property.

II. The Breakthrough of Open Source to Intellectual Property and its System Logic

a) The breakthrough of open-source software to traditional intellectual property

Open-source software is the opposite of closed-source software. The former has the typical representative of Linux, and the latter has the typical representative of Windows. Richard Stallman, the founder of the Free Software Movement, a precursor to open-source software, opposed the commercialization of software in the form of closed source code, arguing that it was unethical to prevent users from learning and helping others. He proposed that intellectual property encourages knowledge production by establishing
private property rights but restricts knowledge sharing by conditional use. On the other hand, open-source software prevents private ownership in the form of shared property rights. The specific approach is to protect the right of anyone to use, modify, and distribute the work and its derivatives. The only premise is to distribute under a Copyleft license. That is to say, open-source must be shared and held accountable if privatized, and knowledge must be shared and held accountable if privatized. The breakthrough of open-source software to traditional intellectual property theory is mainly reflected in the following three aspects.

i. Copyright

Copyright, also known as Copyright, is adopted by most countries to protect the intellectual property rights of computer software. The software includes closed source commercial software and open-source free software. The former uses the traditional Copyright (Copyright, also known as right Copyright) to protect the author’s exclusive property right to the product. The latter uses Copyleft (also known as left Copyright) to preserve the co-ownership of the owner.

Although both use licenses to constrain related rights, there are essential differences in institutional constraints before and after. Commercial software uses software proprietary license to protect the interests of the right holder. Other people acquire the right to use the product in payment, restricting users to modify and spread the software. Open-source software uses left Copyright licenses to protect the freedom and rights of users to the greatest extent. Anyone can change and republish the source code under the license, which fully embodies the characteristics of open-source software “free, open, cooperative and shared”. As the GPL license authors said, Whereas commercial software developers use Copyright to take away our freedom to share software, open-source enthusiasts can also use Copyleft to create a new release. We give everyone the freedom to use the source code we provide.

ii. Patent rights

Patents, whose legal value lies in adding profit to the fire of genius, are often used as shorthand for “monopoly” instead of the free sharing that open-source software emphasizes. The patent crisis faced by open-source software inevitably falls into patent disputes because it does not apply to patents. Specifically, patents have priority. For example, suppose the original author of open-source software does not apply for a patent, but a third party not bound by the license applies for a patent. In that case, it is difficult for the original author to escape from patent infringement even if he developed the software earlier. A typical case is as follows: SCO prosecuted IBM patent infringement case in 2003. Linux was confronted with an intellectual property lawsuit that shocked the world. Unlicensed use of closed source commercial UNIX code for free, open-source Linux, accused SCO of violating intellectual property rights and trade secrets and demanded up to $1 billion in damages. After a year, the case ended in a settlement. Still, it has become a powerful weapon and strategy for commercial software to attack and bring down open-source software in the form of patent litigation. It also warns open-source software developers and companies to pay attention to patent issues and protect their legitimate rights and interests.

The idea that open-source software can be freely shared does not mean that it cannot be patented or that open source is not patentable. In fact, open-source software patents belong to defensive patents, that is, the original author gets priority in the form of patent, and the software can still be freely distributed after application. Thus, on the one hand, the freedom of knowledge sharing of open-source software can be maintained. On the other hand, it can also obtain legal protection and avoid falling into patent disputes.

Blockchain, for example, is a better case for the combination of open-source software and an application for a patent. Association of patent protection in China released the 2020 global authorized patent report blockchain field, pay treasure to 212 authorized patents digital blockchain column first in the world, and blockchain is based on open-source software projects.

iii. Trademark rights

Trademark is a critical way to protect computer software earlier than Copyright. To make their products different from other software, software developers often use words, graphics, and other special symbols to put trademarks on the outer packaging of software or embedded in the program to make it displayed during running. As the well-known trademark in the software field has a certain appeal to consumers, counterfeit trademarks and other pirated software will appear. The specific manifestations are: pirated software developers put the trademark of genuine software in the product packaging or embedded in the software program, or limited to the technical means is not strong, only delete the name of the original software author, but still cannot remove the original software trademark in the process of program display, that is, trademark infringement.

To protect the rights and interests of Open-source software developers, the Open Source Initiative applied for OSI (Open Source Initiative) as a trademark, specifically "OSI Certified" as the symbol, to protect identified Open Source software. The criteria are to examine whether the software is distributed in compliance with the open-source software license and if it is approved, OSI grants certification marks to the software. A typical case in this regard was MySQL AB prosecuted Progress Software Corp., NUSPHERE Corp. in 2002. NUSPHERE Corp. is a classic example of open-source software using trademark law to protect its rights.
software issued by the defendant contains both MySQL open-source software based on the GPL and its closed source software (Gemini), but the installed software will display the icon of MySQLD program. MySQL AB accuses the defendant of violating GPL rules by forcing the defendant to open the Gemini source code required by the GPL.

b) Open-source software license system

Software License refers to the contract signed by the software publisher and user to guide and regulate how software is used. It is the property rights protection system of the software itself. Traditional intellectual property rights protect the exclusive property rights of individuals to the fruits of labor by law. Anyone needs to obtain the right to use the products in a conditional license, such as payment. A comparison is made between commercial software with proprietary property rights and open-source software with joint property rights (Table 1), which contains the following core hypothesis. In the mode of private supply, any leakage of personal knowledge results will lead to the decline of its income. Therefore, most private suppliers will try to reduce knowledge sharing and protect individual proprietary property rights of products in the form of intellectual property rights[^6].

Open-source software in the form of license, so that anyone can use, modify and release source code software free of charge, product rights are entirely open to the outside world, shared property rights. The licensing system breaks the traditional intellectual property misconception that open-source software owned by common ownership does not need copyright protection, which is wrong. Licenses protect open-source software copyright in such a way as to avoid private ownership of shared knowledge products effectively. The lack of motivation is overcome because developers are motivated to volunteer because they have certain stable expectations of participating in contributions.

**Table 1**: Comparison of property right structure between commercial software and open-source software

<table>
<thead>
<tr>
<th>Software type</th>
<th>Commercial software (proprietary)</th>
<th>Open-Source software (shared ownership)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rights of possession</td>
<td>Private possession</td>
<td>Open to all, not to any personal possession</td>
</tr>
<tr>
<td>Right to use</td>
<td>Subject to a conditional license, the licensee is free to use it</td>
<td>Anyone can use, modify and distribute the software for free</td>
</tr>
<tr>
<td>Usufruct</td>
<td>On a possession basis, the copyright holder earns revenue by selling the software</td>
<td>On a usufruct basis, producers earn revenue by using the software</td>
</tr>
<tr>
<td>Right of disposition</td>
<td>Producers are free to license or transfer software</td>
<td>Producers must open licenses, and there is no transfer of software</td>
</tr>
</tbody>
</table>

At present, there are 63 kinds of open-source licenses certified and published by the OSI official organization, which can be divided into three types according to the severity of the requirements for open source distribution. The first type is the most strict and can best reflect the spirit of free software, which is the fundamental driving force for developing open-source software, and is represented by GPL and LGPL licenses. The second category is the traditional commercial software companies actively engaged in the open-source software world, represented by the MPL license. Finally, the third category is the most comprehensive open-source in the world of open-source software. Open-source code can be freely combined with proprietary commercial software source code, and it is the most typical business-friendly license, represented by a BSD license[^7]. The prevailing open-source software licensing rules are shown in Table 2.
Table 2: Classification of mainstream Open source software Licenses [5]

<table>
<thead>
<tr>
<th>Similarities</th>
<th>Whether it can be mixed with other non-open source software code</th>
<th>Whether changes to source code can be kept secret</th>
<th>Whether the patent license is specified</th>
<th>Whether a “LEGAL” indication is required regarding the intellectual property rights that may exist in the obtained source code</th>
<th>Whether it is clear that infringement actions result in termination of the license agreement</th>
<th>Whether the source code can only be distributed under this license</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contrast of points</td>
<td></td>
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</tr>
<tr>
<td>GPL license</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>✓</td>
</tr>
<tr>
<td>LGPL license</td>
<td>✓</td>
<td>×</td>
<td>×</td>
<td>✓</td>
<td>✓</td>
<td>×</td>
</tr>
<tr>
<td>BSD license</td>
<td>✓</td>
<td>✓</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>NPL license</td>
<td>✓</td>
<td>✓</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>MPL license</td>
<td>✓</td>
<td>✓</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Apache license</td>
<td>✓</td>
<td>✓</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>QPL license</td>
<td>✓</td>
<td>✓</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>QNCL license</td>
<td>×</td>
<td>✓</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
</tbody>
</table>
| Ricoh license | ✓ | ✓ | ✓ | ✓ | ✓ | ★
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| MOTOSOTO license | ✓ | ✓ | × | ✓ | ✓ | × |
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| AFL license | ✓ | ✓ | ✓ | × | × | × |
| Artistic License | ✓ | ✓ | ✓ | × | ✓ | × |
| APSL license | ✓ | ✓ | ✓ | × | ✓ | × |
| Common License | ✓ | ✓ | ✓ | × | ✓ | × |
| IBM license | ✓ | ✓ | ✓ | × | ✓ | × |

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III. Blockchain and its Open-Source Strategy

Blockchains and open-source software have similar underlying technical architecture and governance logic, which both emphasize mobilizing all parties' enthusiasm in a decentralized way, thus promoting distributed and open innovation. Furthermore, both are the results of fostering collective action or collaboration in the face of dispersed individuals without administrative orders[8]. The development of blockchain technology has gone through three stages. The first stage is Bitcoin, which solves the centralization problem. The technology has gone through three stages. The first stage is Bitcoin, which solves the centralization problem. The second stage is Ethereum, which proposes innovative contract technology to run in the blockchain network. It enables users to develop decentralized program applications in Ethereum freely, thus significantly improving the technological innovation level of blockchain, enhancing and expanding application scenarios[10]. Next is the third phase, which will facilitate the integration of blockchain with various technologies and application scenarios to build trust networks similar to those within open-source software and communities.

a) Bitcoin and its open-source strategy

In 2008, Satoshi Nakamoto published Bitcoin: Peer-to-peer Electronic Cash System[11], which is the world's first introduction of bitcoin proper names and peer-to-peer crypto currencies[12] and is widely recognized as the white paper of Bitcoin. On January 3, 2009, Nakamoto released the first version of the blockchain, bitcoin 1.0, using the open-source C++ programming language for Windows only.

Bitcoin is currently the most important digital currency, allowing users to conduct online transactions and payments without a financial intermediary. Bitcoin is called cryptocurrency mainly because it is protected by complex encryption technology[13]. Blockchain as the underlying technology of COINS, every user currency blockchain ACTS as connected nodes, and through a password Hash as a public key (Hash)[2][14]. When the user starts a new node, each node will store the public and private keys automatically generated by the Bitcoin blockchain system[15]. The user with bitcoin can send it to another user through the recipient's public key signature and the hash of the previous transaction.

Blockchain is a decentralized network structure where each node can display or obtain any information and transaction records[16]. In general, blockchains operate like "proof of work" or "proof of stake"[17]. When information or transactions are sent to nodes in the blockchain, Computers at each node (commonly known as "miners") compute mathematical functions in a competitive manner ("mining"). Miners repeatedly add the input data and the hash value of each calculation until the hash value is below the difficulty target set by the Bitcoin blockchain. Miners who complete the calculation first have the right to send the information and transaction records to the nearest new block[18] and will be rewarded with new bitcoins automatically generated by the blockchain[19].

Because each block contains its ID and the last block's ID, all blocks can be linked without a central server, making it possible for people to keep track of everything on the blockchain and keep their jobs safe. Furthermore, information can be encrypted by hash functions before being directed to the blockchain since hash functions are one-way functions, so the hash values generated by hash functions and stored in the blockchain are not reverted to the original information[20]. Based on this, identity information pointing to the blockchain can be verified by repeatedly manipulating the hash function to see if it generates the same hash value to maintain confidentiality. In this case, the transparency, immutability, and non-repudiation of information will all be verified. Therefore, blockchain technology can be used as a sound "proof of existence" in electronic documents.

Regarding Bitcoin’s open-source strategy, its official website Bitcoin.org provides users with a free link to download "Bitcoin Core", an open-source software-driven by the Bitcoin community and licensed under the MIT license. According to the OFFICIAL OSI (Open Source Initiative) website, all copies or most of the software under the MIT license shall display the following copyright notice: "Anyone may obtain the Software and related documentation free of charge and process the Software without restriction, including, but not limited to, using, copying, modifying, merging, distributing, sublicensing and/or selling copies of the Software and the right to permit those providing the software to do so"[21]. Thus, any blockchain developer can download the "Bitcoin Core" and its associated documentation for free to use or modify the Bitcoin blockchain to develop and distribute their applications. For example, the Machine Learning Laboratory of the Massachusetts Institute of Technology (MIT) released an open-source project on January 8, 2016, aiming to build an ecosystem of creating, sharing, and verifying educational certificates based on blockchain technology. The project's source code was published on Github in an MIT license[22].

b) Ethereum and its open-source strategy

Since the scripting language of the Bitcoin blockchain is incomplete, it has minimal programming
capabilities. Until it is widely accepted as legal tender by governments worldwide, the commercial use of Bitcoin is still very limited. In this case, the second stage of the blockchain, Ethereum, has been ushered in.

In 1997, Nick Szabo published an article entitled The Idea of Smart Contracts, defining intelligent contracts as "the form of embedding contracts into various valuable properties through digital intelligence" [23]. In 2013, the idea of smart contracts was realized by a 19-year-old computer genius named Vitalik Buterin, who publicly identified Ethereum as another peer-to-peer decentralized blockchain. However, due to Bitcoin's incomplete blockchain and limited scripting capabilities, Ethereum blockchain uses a more sophisticated scripting language that allows users to write and deploy smart contracts and other applications.

Ethereum blockchain has two types of accounts, including external accounts and contract accounts. External accounts are for ordinary users only. When a user creates an external account, they are asked to enter a password. The Ethereum blockchain then generates a pair of public and private keys for the external account, represented by the address of a sequence of numbers generated by the account's public key. There is no concept of an account name on the Ethereum blockchain. The address of an external account is independent of the user's identity, as the blockchain system does not require users to register under their real names. Hence, users are anonymous on the Ethereum blockchain[24].

The contract account stores the smart contract code, and its address mainly comes from some information related to the smart contract, such as the address of the creator and the number of transactions. Smart contracts in the Ethereum blockchain are treated as autonomous scripts. Ethereum writes a programming language for users to develop smart contracts. An Ethereum Virtual Machine (EVM) was also created to deploy and execute smart contracts in the Ethereum blockchain. The server allows users to write smart contracts and translate actual contracts into programming code, compiled them into EVM byte code, and deployed them to the Ethereum blockchain for execution.

Once deployed to the blockchain, smart contracts cannot be modified and are automatically executed once the conditions of the agreement are met without human intervention. Therefore, smart contracts can solve problems in real life and significantly reduce labor costs, administrative expenses, and time costs[25].

Ethereum provides a command interface called Geth to run a complete Ethereum node in terms of open-source strategy. Ethereum's official website states that the Ethereum core license is licensed under the GNU LGPL and runs all front-end client software. On the other hand, Geth is licensed under the GNU GPL general public license, a free copyright license issued by the free software foundation that guarantees all users of software four freedoms. (1) Any user can use it for any purpose; (2) Users have the freedom to change the software at any time according to their own needs; (3) Freedom to share software with the user's neighbors and friends; (4) The freedom to share any changes made by users.

The current version of the GNU GPL is GNU GPLv3, which was released on June 29, 2007. Under GNU GPLv3, the Ethereum blockchain should expose the source code of each software program so that users can access and use it freely. Furthermore, to ensure that users are free to use all software versions, GNU GPLv3 acknowledges that all users are free to run, modify, and distribute copyrighted software under the GNU GPLv3 license without restriction. However, to achieve the goal of free access and sharing software, GNU GPLv3 does not allow users to use or modify open-source software published by others, nor does it allow others to use or distribute modified versions of the software.

IV. Blockchain open Source in Intellectual Property Dilemma and Suggested Measures

a) Blockchain open source in the intellectual property dilemma

Most initial blockchain developers are believers in open-source software, setting up the core blockchain program, development interface, and application software as open-source, making it freely available to all developers or hobbyists. In recognition of the open-source culture, the original developers did not intend to collect licensing fees or royalties from other blockchain developers or users and therefore did not apply for patents.

However, subsequent application developers have filed so many patents that the original blockchain developers have begun worrying whether patent applications could hinder or jeopardize the next blockchain innovation. Blockchain inventions usually involve many technical features, not just abstract ideas like software or e-commerce. These patent applications were initially based on the earliest blockchain developers, but some modifications have to be made due to the rapid iterative nature of the software and the need for continuous improvement. Furthermore, when subsequent developers build on what the original developer developed and patent the product, those applications are often quickly approved. In this case, many of the initial blockchain developers may not continue to improve and develop the product because of subsequent patent applications by other developers.

Therefore, the dilemma of blockchain open source in the field of intellectual property is particularly obvious and anxious: Early blockchain developers, because of open source culture, will choose to share
and not apply for a patent, but late developer and protect own intellectual property rights, choose to apply for a patent, instead of the initial and subsequent caused sure open-source developers, this contains the open-source philosophy of speculative behavior for the concern of technology innovation is certainly worth attention.

b) A proposed solution to the blockchain open-source dilemma

i. Industry standard licensing program

As technology advances and product complexity increases, much new technology research and product development are often not done by a single company. When different companies carry out collaborative innovation, there will be compatibility and interoperability problems between various components. Therefore, the establishment of a unified industry standard is an effective measure to improve product compatibility.

Australia is one of the fastest countries to promote blockchain industry standards. In April 2016, the Australian Standards Body proposed a new initiative for the International Organization for Standardization (ISO) to develop a blockchain standard to support technology development. According to the proposal, some of the most severe problems facing blockchain open-source are data sovereignty, privacy, and lack of consensus, creating issues for policymakers and regulators alike. In April 2017, The Australian Standards Body, in collaboration with the International Organization for Standardization ("ISO"), hosted the first International Blockchain Standards Conference, which was attended by many countries, including China, the United States, Germany, the United Kingdom, Japan, Russia, France, and Singapore. As a result, ISO issued “Blockchain and Distributed Ledger Technology (ISO/TC307)”, as one of the standards under development, and the rest of the ongoing standards include reference, architecture, governance, compatibility, security, privacy, identity, smart contracts, distributed ledger technology and more than ten other standards. Currently, the Committee has 37 Member States and 14 observer states. While this international collaboration is a work in progress and its effectiveness remains to be seen, it at least shows that industry standards are a trend.

ii. Blockchain open-source license scheme

Traditional blockchain did not resolve for downstream users to modify the terms of the license source code and submit an application for a patent, intellectual property rights. Whether the currency to the MIT license, the etheric fang core protocol LGPL, or etheric fang Geth command to the GNU GPL license, even if the subsequent developers don't make any programming code, it's still patentable.

The third edition of the GPL license is expected to help solve this problem. The GPLv3 license defines a "contributor" and proposes the copyright owner use its program under the license, called a "contributor version." Each Contributor shall grant a non-exclusive, free-to-use patent license to others under this license to enable Users to make, use, sell or otherwise run, modify and disseminate versions of participants in their content. This, to a large extent, solves the situation that original blockchain developers are "isolated" because they do not apply for patents. In addition, it can better solve the problem that "contributors" who apply for patents still have the freedom to participate, contribute and share after submitting patent protection, and their concerns about technological innovation can be well solved.

iii. Disclose the patent scheme

An Open Patent, also known as the Patent Pledge or Patent Commons, is a public commitment made by the Patent holder at their will. The patent holder does not claim all or part of his patent rights against any person or a particular group.

IBM was the first advocate of open patents. In order to promote technological innovation in the information industry and express its support for open-source software, IBM listed 500 patents held by IBM and related foreign patents on its official website in 2005 and promised that the open-source community could freely use this patented technology and would not claim patent infringement under any circumstances. IBM also announced that its commitment not to Sue the open-source community is legally binding. IBM's open patent movement includes the user interface, data storage and management and operation of a multifunctional application, data processing, man-machine interface, image processing technology, the Internet management, compression and encryption technology, as well as the method of electronic commerce essential technologies, such as the public for open source in solving problems of intellectual property rights, which has a fundamental enlightening significance. In addition to IBM, Google made the same move in 2013, promising to open up 200 patents to the open-source community and promising not to Sue for patent infringement. Tesla also announced in 2014 that, in the spirit of the open-source movement, to promote the progress of electric vehicle technology, Tesla Motors would disclose its patents to the outside world and would not Sue for patent infringement.

Studies have shown that opening patents positively encourages participation and contribution and promotes technological innovation. Thus, not only will it benefit the industry as a whole, but it will also help guide participants to open technologies and markets built by patent owners, thus making strong network effects.
V. Research Conclusions and Prospects

The breakthrough of open-source software on intellectual property theory is reflected in three aspects: copyright, patent, and trademark rights. It has its own property rights system constraints in the form of license, requiring joint ownership of property rights. Product rights are entirely open to the outside world, and anyone can use, modify and release source code software free of charge.

As a product of rapid technological innovation in today’s society, blockchain plays an essential role in many financial and non-financial industries. The first generation of Bitcoin takes MIT license's open strategy, and the second generation of Ethereum takes GNU GPL, which can’t solve the innovation difficulties. The original blockchain developers made everything open for free based on the recognition of open-source culture. However, neither individuals nor enterprises can prevent many subsequent blockchain developers from applying the core program for further development and filing many patent applications. It will cause the original blockchain developers to worry whether these patents will slow down or even endanger blockchain technology innovation.

According to the dilemma mentioned in the article, this paper tentatively proposes three possible solutions: industry-standard license plan, blockchain open-source license plan, and open patent plan. First, an industry-standard licensing program, aimed at resolving from different companies, different projects, different communities, and even different countries encountered in open source software collaborative innovation problems, is helpful to improve compatibility between open source components, improve joint operation, to reduce the system transformation between time cost and workforce cost, promote the further incremental innovation and open innovation. Second, whether the MIT license of Bitcoin or GNU GPL of Ethereum cannot solve the problems that some developers can apply for patent successfully even without code contribution. The emergence of the GPLv3.0 license with the "contributor" and "contributor version" would help original innovators freely participate and contribute. This can alleviate the concerns raised by open-source believers that patent protection could hinder technological innovation. Third, open patent scheme, that is, the legal commitment of the patent holder to disclose patent information and allow external participants to use it, and not to file patent litigation. Advanced technology companies such as IBM, Google, and Tesla have all made attempts. Studies have shown that the disclosure of patents can guide the construction of the technology and market of the disclosed patent holders and help establish network effects.

Taking blockchain and its open-source strategy as an example, this paper puts forward the intellectual property dilemma encountered by open-source software. It suggests solutions, which are of great significance for filling the research space in this field and expanding the theoretical research on open source intellectual property. The next step will be a valuable attempt to deepen the effects of different schemes further and explore their detailed mechanism of action.

Acknowledgements

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By Dr. Nazrul Islam, Mohitul Ameen Ahmed Mustafi, Abid Aziz, Amitava Bose Bapi, Dr. Sharmina Afrin & Md. Monowar Uddin Talukdar

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Abstract - Development of women entrepreneurship in the SME sector has a crucial importance in a developing country like Bangladesh where women constitute half of the total population. The majority of them are underprivileged, under nourished, illiterate and poor. Hence, the development of women entrepreneurship has tremendous potentials for transforming the society through socioeconomic empowerment of the women. This potential is remained untapped in Bangladesh because of lower number of women entrepreneurs in business and economic activities. According to the Bangladesh Economic Review 2009, around six percent of the country’s $90 billion economy comes from SMEs, which is also the largest sector in terms of employment generation. But the women entrepreneurs are less than ten percent of the total entrepreneurs of the country. However, in the recent years, women entrepreneurship in small retail businesses of the country has been increasing which is a good sign for the positive growth of the economy.

Keywords: regulative factors, normative factors, cognitive factors, retail business, entrepreneurship, socioeconomic empowerment.

GJMBR-A Classification: JEL Code: L26

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Critical Factors for the Development of Women Entrepreneurship in Retail Business of Bangladesh

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Abstract - Development of women entrepreneurship in the SME sector has a crucial importance in a developing country like Bangladesh where women constitute half of the total population. The majority of them are underprivileged, under nourished, illiterate and poor. Hence, the development of women entrepreneurship has tremendous potentials for transforming the society through socioeconomic empowerment of the women. This potential is remained untapped in Bangladesh because of lower number of women entrepreneurs in business and economic activities. According to the Bangladesh Economic Review 2009, around six percent of the country’s $90 billion economy comes from SMEs, which is also the largest sector in terms of employment generation. But the women entrepreneurs are less than ten percent of the total entrepreneurs of the country. However, in the recent years, women entrepreneurship in small retail businesses of the country has been increasing which is a good sign for the positive growth of the economy. Therefore, for the development of women entrepreneurship in retail business sector of Bangladesh, identification of critical factors is highly important. These factors can be classified into three types such as, regulative, normative, and cognitive factors. This paper aims at identifying the critical factors related to the development of women entrepreneurship in the retail business sector of Bangladesh. For identifying the factors, 218 women entrepreneurs of retail businesses were interviewed with a structured questionnaire. Both descriptive and inferential statistics were used in this study. Structural Equation Modeling (SEM) was used to identify the relationships between the critical factors and the overall development of women entrepreneurship in retail business of Bangladesh. The results show that for the development of retail business women entrepreneurs, regulative, normative and cognitive factors are important. Regulative factors such as rules and regulations of the Government and its implementation are critical significant factors for the development of retail business women entrepreneurs in Bangladesh. This study suggests that the government and the policy making organizations should come forward to overcome of normative and cognitive barriers of the women entrepreneurship in the retail business of Bangladesh.

Keywords: regulative factors, normative factors, cognitive factors, retail business, entrepreneurship, socioeconomic empowerment.

I. Background

Women entrepreneurship is very critical for any economy of the world. Women can contribute much more than men if they are provided with supports and equal resources. Food and Agricultural Organization (FAO) of the UN calculated that if women farmers, which is 43% of the agricultural labor force, in developing countries had the same access as men, agricultural output in 34 developing countries would rise by an expected average of up to 4%, which could reduce the number of undernourished people in those countries by as much as 17%, reducing approximately 150 million hungry people of the world. Women entrepreneurs possess many innate traits that can put them ahead in running a business successfully. Some of the traits are aptitude for learning, towering integrity, innate ability to build relationship, superb sense of ownership, higher adaptability, and knack for Human Resource Management. But women still are a minority of all entrepreneurs and face gender based discrimination to start, run and grow a business. Hence, women entrepreneurship can enhance women empowerment, improve economic wellbeing of the family and society and alienate poverty.

Bangladesh as a developing country of the world, women participation in business is a must for the emancipation of the economic status of the country. Although, Bangladesh has improved significantly in its economic order, educational development, social changes, and living standards, women entrepreneurs are not developed like men entrepreneurs. However, in recent years, a noticeable advancement is observed in women’s increased participation in job and small entrepreneurial; businesses. Women bravely are overcoming the challenges posed by social systems to venture into small entrepreneurship, both in the urban and rural areas. The business activities differ but the
performance is commendable against the social and cultural restrictions for women in Bangladesh, including the tremendous odds surrounding the socioeconomic order.

Study shows that most of the women entrepreneurs in Bangladesh do not have proper knowledge of establishing a start up and running a business (Habibullah, 1987). It also found that training can play an important role for women entrepreneurship development in Bangladesh. Finance is one of the most critical and important factor for starting a business in Bangladesh where women are lag behind. Bank is an important source of capital where women have limited access. But many of the entrepreneurs does not know how to write a project proposal to a bank for loan and how a bank evaluates the proposal before taking a decision to lend money (Habibur Rahman 1995). Akhtaruddin (1999) found that the personal attributes are the key factors for entrepreneurial success or failure. Women entrepreneurs are mainly challenged by lack of funds, marketing deficits and discriminating treatment from supportive service agencies and government (Saleh 1995). Despite various initiatives, challenges of inadequate capital, sales promotion, permission for starting a business, gender discrimination, illiteracy, lack of business knowledge, non-availability of training programs, technical supports and lack of managerial experience are still prevailing against the women entrepreneurs which act as glass ceiling barriers for them. Therefore, this study tries to identify the critical factors for the development of women entrepreneurship in retail business of Bangladesh.

II. Literature Review

Women involvement in retail business of Bangladesh is remarkably increased in recent days. However, they face numerous challenges to work in a male-dominated society like Bangladesh with a competitive and highly complex economic and business environment. These challenges often come from the society’s culture and the local syndicates where females are perceived incapable to do independent job. Study show that inadequate capital, sales promotion, getting permission to start-up a business, gender discrimination, illiteracy, lack of knowledge, non-availability of training program, barriers to access to technical support, lack of managerial experience, making ill talk by young people in some cases are the significant hindrances for women entrepreneurship development and so on. However, personal qualities such as hard work and perseverance, management and marketing skills, support provided by their spouses or family are the main reasons behind the success of the women entrepreneurs (Afroze, et.al., 2015). To establish a business, the initial problems faced by the female entrepreneurs seem similar to those confronted by female in other developing countries. However, the findings shows lower levels of work-family conflicts among Bangladeshi female entrepreneurs seem to differ with other countries in terms of their reasons for starting a business and succeeding in the venture (Rahmatullah & Zaman, 2014). Study also identified that these challenges are faced by women borrowers other countries too. In Eldoret Town of Kenya, acquisition of credit from Women Enterprise fund are hindered by: long procedures involved in application and long processing, delay in loan disbursement, requirement that a member must have accumulated savings, lack of security/ collateral, requirement that one must be a member of a group first, and high cost of acquiring loan (Gedion, et. al., 2015). The study revealed inadequate funding and finance and the inability to clarify business goals as the main barriers restricting the success of the business for female entrepreneurs in South Africa (Meyer & Mostert, 2016). Different internal and external factors affect the motivation, create obstacles to success and performance of firms created by women. It is clear that type of financial support, demographic factors, age at which the new business venture is undertaken, use of family loans and the initial size of firm are all instrumental in subsequent business success (Akehurst, et. al., 2012). To overcome these problems, government and family supports are crucial for the women entrepreneurs in developing countries like Bangladesh. Hence, the emergence and development of entrepreneurship largely depends on the supporting conditions of different factors such as economic, social, cultural, and psychological. Based on institutional theory, these factors can also be divided into regulative, normative and cognitive factors. Regulative factors refer to the rules and regulations of Government and other institutions that influence women entrepreneurship development in rural Bangladesh (Nawaz, 2009). Widespread illiteracy, lack of basic education, training and experience also remain serious obstacles in rural women’s entrepreneurship development. Besides these, lack of awareness, social superstitious and the absence of rule of law also affect the rural women’s participation in economic activities outside their family (Nawaz, 2009).

The creation of a new venture is a complex process that includes the actions, activities, thoughts, and processes. Some researchers conceptualized new venture creation as a process based on the effort–performance– outcome model where the effort is expended to start a business (performance) leads to certain desired outcomes (Kariv, D. (2013). Study also found that the external factors are more dominant than the internal ones in contributing to the business success of the One-District-One-Industry program (ODOI) entrepreneurs in Malaysia. The findings indicate that the government should actively play its pivotal role in (i) skill training since most rural businesses are labor intensive which involve skills and creativity; (ii) strengthening
business competencies through more rigorous training; (iii) investment in infrastructure and facilities for a conducive local business environment; and (iv) effective market support services in terms of product promotion, market accessibility and networking (Kader, et. al., 2009). As long as success is concerned, the most significant factors affecting business success of SMEs in Bangladesh are concerned with the way of doing business, management know-how and, external environment (Philip, M. 2011). Study also identified more findings in this regard such as, (i) SMEs are of overwhelming importance in the region, as they account, on average per country, for more than 95% of all firms in all sectors, (ii) the representation of women entrepreneurs is still relatively low which can be attributed to factors such as low level of education, lack of capital, and cultural or religious constraints, and (iii) most of women entrepreneurs in SMEs are from the category of “forced” entrepreneurs seeking for better family incomes (Tambunan, T. 2009). The concentration of women in low capital intensive industries which require less funding and at the same time have a lower potential for growth and development might also be driven by barriers against women regarding access to finance (Klapper & Parker 2010). The study on micro-entrepreneurs in Pakistan, in this regard, reveals that at the time of entering into the venture, women are driven mainly by the pecuniary motives. They perceive customer service and relative business experience as the key success factors. Lack of access to financial capital, bureaucratic hurdles, and environmental uncertainty are the major barricades (Hussain & Yaqub, 2010). The study conducted in Ethiopia on SME women entrepreneurs also identified problems in the areas of securing finances for establishing and running SMEs, lack of entrepreneurial and management competence and exposure, problems in finding the markets and distribution networks; limited opportunities for promotion and participation; limited amount of government and institutional support; absence of technological know-how and integration mechanism; and rampant corruption in an undisguised or disguised form, as major bottlenecks (Singh & Belwal, 2008).

The women entrepreneurs are engaged in small business in different countries. Women Entrepreneurship Development (WED) Study in Africa showed that many women are still operating smaller businesses and doing so in localized markets and in feminized sectors. These businesses are under severe market pressure from competition both locally and internationally. These women entrepreneurs suffer to varying degrees from significant material constraints through to unhelpful attitudes arising from society’s negative attitudes to women in business. Nearly all of the women interviewed have severe pressures on their time because of juggling business, household and community duties (Richardson, et. al., 2004). Study also identified that the female-owned businesses do have higher failure rates compared to male-owned businesses, the difference is not significant after controlling for the effects of industry (Watson, 2003).

In case of micro credit, total amount of microcredit financing, education, government support and experience are found significant for the rural women (Mohamad-Azhari, & Joni-Tamkin, 2013). A survey was used to collect data from 224 Emirati female entrepreneurs. It was found that family is an important factor. Family support and contribution of family members to the business are important for business success (Jabeen, et. al., 2015). The specific obstacles and challenges faced by women are the lack of role models in entrepreneurship. Lack of experience, Lack of wealth, competing demands on time (Jahan, 2017).

Therefore, the core issues were identified by the women entrepreneurs like marketing, capacity building and training, access to finance, design and product development, regulatory barri e rs regarding tax, VAT and company registration, promotional activities, ICT etc. but in maximum cases women were deprived of due to negative attitude of our society & community (Rahman, 2010). The factors taken into account in this study are summed up in Table 1.

<table>
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<tr>
<th>Factor Name</th>
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<td>Institutional policies</td>
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<td>Entrepreneurial training</td>
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Table 1: Independent Variables Concerning Retail Business Women Entrepreneurs
### III. Research Methods

This study is based on both primary and secondary sources of information. To determine the sample size of the retail women entrepreneurs, published formula of University of Florida was used as a reference. This study used formula for taking sample data from population suggested by Yamane, (1967).

\[ n = \frac{N}{1 + Ne^2} \]

Where, \( n \) = Sample Size, \( N \) = Population, \( e \) = Level of Precision, in calculating number of sample the following assumptions were made to determine, \( n = 218 \), if Population size is more than 100000; Level of precision is 7%.

#### a) Statistical Tools Used

Both descriptive and inferential statistics were used to analyze the data. Inferential statistics like Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) were used to confirm the respective factors. It also identified the critical influential factors which are related to develop of women entrepreneurship in retail business of Bangladesh.

#### b) Questionnaire Design and Test of Reliability

We have selected 218 respondents from retail business in Bangladesh. A structured questionnaire with 11 items was used to collect the data. This structured questionnaire with the 5-points scale was developed for the items related to critical factors for the development of women entrepreneurship in retail business of Bangladesh. Two demographic variables, namely, age, and education level were taken to ensure the variability of different variables.

#### c) Data Collection

The sample respondents were selected by using the convenience sampling method. After collecting 234 data, incomplete, biased, and or abnormally answered data were discarded through scrutinizing process and finally 218 data were used in the analysis. The reliability of 11 items in the questionnaire has been tested by using SPSS software.

#### d) Participants and Procedures

Out of 218 respondents, 71% are from 28-35 years, 23% are from 36-45 years and 6% are from 45 yrs and above age group. With regards to education, 5% completed primary, 9% secondary, 18% higher secondary, 19% honors and 49% completed Master’s education (Table 2).

#### Table 2: Descriptive Statistics

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<td>36-45 years</td>
<td>50</td>
<td>22.9</td>
</tr>
<tr>
<td>45 years and above</td>
<td>13</td>
<td>6.0</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Secondary</td>
<td>20</td>
<td>9</td>
</tr>
<tr>
<td>Higher Secondary</td>
<td>40</td>
<td>18</td>
</tr>
<tr>
<td>Honors</td>
<td>42</td>
<td>19</td>
</tr>
<tr>
<td>Masters</td>
<td>106</td>
<td>49</td>
</tr>
</tbody>
</table>

#### e) Normality of Data

According to Tabachnick and Fidell (2001), the value of Skewness and kurtosis statistic lies between -4 to +4 that is deemed to be acceptable. Table 3 shows that all the data met the acceptable range indicating the normal distribution of data.

#### Table 3: Normality of the Information

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
<th>N</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF1</td>
<td>218</td>
<td>.278</td>
<td>-.589</td>
</tr>
<tr>
<td>RF2</td>
<td>218</td>
<td>.106</td>
<td>-.749</td>
</tr>
<tr>
<td>RF3</td>
<td>218</td>
<td>.385</td>
<td>-.277</td>
</tr>
<tr>
<td>RF4</td>
<td>218</td>
<td>-.174</td>
<td>-.664</td>
</tr>
<tr>
<td>NF1</td>
<td>218</td>
<td>-.066</td>
<td>-.816</td>
</tr>
<tr>
<td>NF2</td>
<td>218</td>
<td>-.109</td>
<td>-.834</td>
</tr>
<tr>
<td>NF3</td>
<td>218</td>
<td>-.014</td>
<td>-.646</td>
</tr>
</tbody>
</table>
f) **Test of Reliability and Validity**

To analyze the reliability of the data, this study used the Cronbach’s alpha, composite reliability, average variance extracted from the data are shown in Table -4 which is at the acceptable limit as per Nunnally and Berstein (1994), Hair et al. 1998, Fornell & Larcker, (1981); Henseler, Ringle, & Sinkovics, (2009) respectively.

For checking the discriminant validity, we followed Fornell Larcker’s (1981) criterion that compares the AVE value with corresponding correlation values with other variables. The square-root value of AVE needs to be greater than the corresponding correlation values with other variables (Hair et al., 2014). The Reliability and Discriminant Validity of the factors is shown in Table 4.

### Table 4: Reliability and Discriminant Validity

<table>
<thead>
<tr>
<th>CR</th>
<th>AVE</th>
<th>Cronbach’s alpha</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Normative Factors</td>
<td>0.877</td>
<td>0.708</td>
<td>0.868</td>
<td>0.841</td>
<td></td>
</tr>
<tr>
<td>2. Regulative Factors</td>
<td>0.884</td>
<td>0.658</td>
<td>0.883</td>
<td>0.804</td>
<td>0.811</td>
</tr>
<tr>
<td>3. Cognitive Factors</td>
<td>0.834</td>
<td>0.557</td>
<td>0.832</td>
<td>0.446</td>
<td>0.486</td>
</tr>
</tbody>
</table>

Note: AVE >0.50 (Fornell & Larcker, 1981); Henseler, Ringle, & Sinkovics, 2009), Composite Reliability >0.70 (Hair et al. 1998), Cronbach’s alpha > =0.60, (Nunnally and Berstein (1994)).

g) **The Coefficient of Determination**

The analysis shows that the R square value of the model is 0.406. That means all three independent factors like normative factors, regulative factors; cognitive factors explained 40.6% of the variance in the overall factors of the women retail business entrepreneurs in Bangladesh.

IV. **Results and Discussions**

In this section, results of Confirmatory Factor Analysis, and the results of Structural Equation Modeling are reported.

**Results of Measurement Model**

a) **Results of Confirmatory Factor Analysis (CFA)**

CFA was utilized to confirm the unidimensionality of measurement that resulted from the EFA. The relative chi-square for this model was 1.395 that was smaller than the three recommended by Marsh and Hocevar (1985). Other fit indexes also showed a good fit for the measurement model. The GFI is .954 which was greater than the recommended value of 0.90 (Joreskog & Sorbom (1984). Moreover, the adjusted goodness of fit index (AGFI) is .925, which was greater than the 0.90 recommended by Anderson and Gerbing (1988). Furthermore, the non-incremental fit index, such as the comparative fit index (CFI) is .989 that was exceeding the recommended cut-off level of 0.90 (Bentler, 1990). Finally, the root means square error of approximation (RMSEA) was 0.043, which was also greater than the 0.05 suggested a good fit to the data (Browne & Cudeck, 1993). The summary result is shown in Table 6. The fit indices showed a good model fit to the data. The other model fit indices were SRMR = 0.0442, and RMR = 0.036 (Table 5 & Figure 1).

### Table 5: Model Fit Indices and their Acceptable Thresholds

<table>
<thead>
<tr>
<th>Goodness of Fit Indices</th>
<th>Value</th>
<th>Level of acceptance</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square/df</td>
<td>1.395</td>
<td>&lt; 5.0</td>
<td>Marsh and Hocevar (1985)</td>
</tr>
<tr>
<td>CFI</td>
<td>.989</td>
<td>&gt;0.90</td>
<td>Bentler (1990)</td>
</tr>
<tr>
<td>RMR</td>
<td>.036</td>
<td>&lt;0.08</td>
<td>Hu &amp; Bentler (1998)</td>
</tr>
<tr>
<td>GFI</td>
<td>.954</td>
<td>&gt;0.90</td>
<td>Joreskog &amp; Sorbom (1993)</td>
</tr>
<tr>
<td>AGFI</td>
<td>.925</td>
<td>&gt;0.85</td>
<td>Anderson and Gerbig (1984)</td>
</tr>
<tr>
<td>RMSEA</td>
<td>.043</td>
<td>&lt;0.08</td>
<td>Browne &amp; Cudeck (1993)</td>
</tr>
<tr>
<td>SRMR</td>
<td>.0442</td>
<td>&lt;0.05</td>
<td>Hu and Bentler (1999)</td>
</tr>
</tbody>
</table>

In sum, the measurement model exhibited a fairly good fit for the data collected. The measurement model was further assessed for construct reliability and validity. Construct reliability can be interpreted as the resultant coefficient that is similar to that of Cronbach’s alpha, except that it also takes into account the actual
factor loadings rather than assuming each item to be equally weighted in the composite load determination. The construct reliability for all factors is above 0.70 in the measurement model exceeded 0.70, which identified as an acceptable threshold (Hair et al. 1998).

Confirmatory Factor Analysis of the Constructs

b) Results of Structural Model

A multivariate analysis technique like covariance-based structural equation modeling was used to identify the significant relationship between overall factors concerning women retail business entrepreneurship development and the factors identified through different factors like regulative factors, normative factors, and cognitive factors.

Table 6 lists the structural parameter estimates and the hypothesis testing results. This study examines the impact of regulative factors, normative factors, and cognitive factors to develop of women entrepreneurship in retail business of Bangladesh. The Path diagram (Figure 2) revealed that only regulative factors (=0.933, p=.000) positively influence the development of women entrepreneurs in retail business of Bangladesh. But normative factors (= -0.283, p=.152) and cognitive factors (=0.039, p=0.629) are not significantly related to the development of women entrepreneurs in retail business of Bangladesh. Hence, the results showed the support for H1 but not H2, and H3.

Table 6: Results of Structural Relationships

<table>
<thead>
<tr>
<th>Factors</th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulative Factor</td>
<td>.933</td>
<td>.188</td>
<td>4.965</td>
<td>0.000</td>
<td>Significant</td>
</tr>
<tr>
<td>Normative Factor</td>
<td>-.283</td>
<td>.198</td>
<td>-1.432</td>
<td>.152</td>
<td>Not Significant</td>
</tr>
<tr>
<td>Cognitive Factor</td>
<td>.039</td>
<td>.080</td>
<td>.483</td>
<td>.629</td>
<td>Not Significant</td>
</tr>
</tbody>
</table>

Figure 2: Confirmatory Factor Analysis of the Constructs

Figure 2: Path Model
V. Conclusions and Recommendations

This study identified critical factors for the development of women retail business entrepreneurs of Bangladesh. CFA shows that all the three factors like regulatory factors, normative factors and cognitive factors are important factors concerning the development of women entrepreneurs in Bangladesh. Covariance-based structural equation modeling was used to identify the significant relationships between the overall factors of women retail business entrepreneurs and the factors identified through research like normative factors, regulative factors and cognitive factors. Results show that the regulative factors are the most important factors for the development of women retail business entrepreneurs in Bangladesh. The reason can be attributed by the overall business environment of the country which is beyond the control of the women entrepreneurs. Results also show that normative and cognitive factors are not significantly related to the overall development of women retail business entrepreneurs in Bangladesh. The reason can be attributed by the changing social culture of Bangladesh and the increase of women entrepreneurs in business. If the government, law enforcing agencies, and institutional supports are ensured, there will more women entrepreneurs in retail business sector of Bangladesh. Moreover, regulatory factors will have positive impact on the normative and cognitive factors concerning women entrepreneurs. Hence, government and other institutions should come forward to ensure the congenial environment of the business for the women entrepreneurs in Bangladesh. However, there is an ample scope to identify additional factors by taking more samples in consideration by further studies in future.

References Références Referencias

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Internal Service Quality and Employees’ Retention: An Empirical Study at the Kuwait Finance House

By Ahmad Abdullatif Alshuraiaan Almutairi

Al al-Bayt University

Abstract- With organizations racing towards achieving the largest market share and overcoming competitors, the human resource plays a pivotal role in enhancing the organization's ability to achieve this goal through the talents employed and retained in the organization. The aim of this study is to investigate the impact of internal service quality on employee retention. The study population was represented by the employees in Kuwait Finance House, which is one of the most significant Islamic banks in Kuwait. The study sample was (612) employees, who formed a response rate (71.16%). Structural equation modeling (SEM) was used as a statistical method for data analysis and hypothesis testing. The results supported all hypotheses that indicated a positive impact of internal service quality and its dimensions on employee retention. Consequently, the study suggests that managers and leaders pay more attention to the psychological aspects of employees and provide an appropriate work environment that motivates them to stay in the organization.

Keywords: internal service quality, employees’ retention, kuwait finance house.

GJMBR-A Classification: JEL Code: E24

Strictly as per the compliance and regulations of:

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Internal Service Quality and Employees’ Retention: An Empirical Study at the Kuwait Finance House

Ahmad Abdullah Alshuraiaan Almutairi

Abstract- With organizations racing towards achieving the largest market share and overcoming competitors, the human resource plays a pivotal role in enhancing the organization’s ability to achieve this goal through the talents employed and retained in the organization. The aim of this study is to investigate the impact of internal service quality on employee retention. The study population was represented by the employees in Kuwait Finance House, which is one of the most significant Islamic banks in Kuwait. The study sample was (612) employees, who formed a response rate (71.16%). Structural equation modeling (SEM) was used as a statistical method for data analysis and hypothesis testing. The results supported all hypotheses that indicated a positive impact of internal service quality and its dimensions on employee retention. Consequently, the study suggests that managers and leaders pay more attention to the psychological aspects of employees and provide an appropriate work environment that motivates them to stay in the organization.

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I. Finance House

The widespread recognition among management science theorists and organization managers that the human resource is the most valuable resource of the organization is a crucial motivation for understanding the various aspects surrounding this resource and appropriate strategies for managing it effectively and efficiently (Dessler, 2017). Employee retention is seen as a pivotal issue in the success of organizations, as studies have shown that the high rate of job turnover and the loss of the organization to its competent employees leads to incurring heavy costs in the process of selecting and recruiting new employees and training them to integrate into the work environment (Azeez, 2017; Kurdi et al., 2020; Wassem et al., 2019). According to Alhmoudand Rjoub(2019) who estimated the cost of a new employee approximately equal the compensation paid to the lost employee for a year. Therefore, organizations around the world strive to make great efforts to retain their employees, considering the loss of them is a major concern that may harm the reputation of the organization and reduce its competitiveness (Bibi et al., 2018).

In the context of organizations’ competition for talent, it has become necessary for leaders of organizations to realize the significant of the factors that help attract and employ this talent within the organization (Fawad Latif et al., 2016). Internal marketing emerges here as one of the major issues that the candidates consider when evaluating the work environment for differentiation and choosing what suits their aspirations (Noor et al., 2014). (Pieter, 2020) indicated that the success of the internal marketing strategy dependence on a set of policies used by organizations’ management to provide distinguished services to internal clients. These services aim to motivate the employees for integrating into work environment and commit to achieving the organization’s goals, where it is referred to as the internal service quality. Several studies discussed the effect of internal service quality on enhancing employees’ satisfaction (Abdullah et al., 2021; Al-Ababneh et al., 2018; Njilo et al., 2020), increasing their loyalty (Gandhi et al., 2018; Tomic et al., 2018), and improving their performance (Fawad Latif et al., 2016; Li et al., 2019; Pieter, 2020; Singh, 2016).

Recently, the oil market has witnessed a significant decline due to trends towards adopting an approach based on sustainability and environmental responsibility. This decline prompted some countries that depend on oil production and exports to restructure their economies to accommodate these changes. Kuwait is one of the most important oil producer and exporter in the world, which has implemented serious strategies and policies to avoid budget deficits and maintain the pace of economic prosperity by focusing on the banking sector. The Kuwaiti banking sector ranks sixth in terms of the volume of assets, according to the fourth annual report of the Central Bank of Kuwait 2020, as it acquired 6% of the total assets of the Arab banking sector and 7% of its deposits. Islamic banks are the fastest growing in this sector with a rate of 23.2%, where both the National Bank of Kuwait and Kuwait Finance House own most of the Kuwaiti banking sector’s assets at a rate of 56%, being the most flexible and for their focus on supporting entrepreneurship.

Since the employee retention problem is one of the challenges that hinder business development, especially in the Arab work environment. Moreover, the...
limited understanding and lack of empirical evidence regarding internal service quality and its role in enhancing organizations’ ability to retain their employees in the context of contemporary dynamic work environments. Besides, the significant role of the Islamic banking sector of Kuwait, the aim of this study is to investigate the relationship between internal service quality and employee retention in Kuwait Finance House, which is considered the most widespread and the acquisition of a market share.

II. Theoretical Background

a) Internal service quality

The appropriate organizational environment encourages the employees to provide the best services to the customers. Mageto and Luke (2019) identified a set of factors that create a supportive organizational environment for employees in order to provide distinctive experiences for customers. These factors included administrative support for employees, providing them high quality services, and flexible regulations and work procedures. Internal service quality provided to an organization’s employees is the beginning of the chain that determines external service quality provided to customers, where employees respond to the quality of services provided by the organization which make them satisfied by making efforts to achieve customer satisfaction (Al-Ababneh et al., 2018; Njilo et al., 2020).

Abdullah et al. (2021) defined the internal service quality as the perceived quality of services provided by organizational departments to their employees or/and to other departments in the same organization. In the same context, Shakya and Tamang (2020) considered it as the degree of employee satisfaction as an internal customer due to his awareness of the services provided by another employee as an internal service provider. Over the past decades, internal service quality measurements have been a dynamic field that has attracted many researchers. Many theoretical and empirical studies were conducted to identify the role of internal service quality in achieving job satisfaction by using various measures of internal service quality (Abdullah et al., 2021; Al-Ababneh et al., 2018; Gandhi et al., 2018; Jen-Hung Wang & Chun-Yan Li, 2018; Njilo et al., 2020; Wang, 2012).

However, the model commonly used in these studies is INTER-SERVQUAL model that includes five dimensions that have unshakeable psychometric characteristics and contribute to an analysis of internal service quality in most targeted organizations (Al-Bilbiese & Al-Nuaimi, 2017; Shakya & Tamang, 2020). Tangibility refers to the physical assets that an organization provides to its employees with the aim of facilitating their work (Dahleez, 2015; Fadil et al., 2016). Reliability expresses an organization’s ability to fulfill its obligations to its employees with confidence and accuracy (Gandhi et al., 2018). Responsiveness is dealing with the employees’ needs effectively and solve their problems as quickly as possible in a way makes them feel that they are of interest to the organization (Al-Ababneh et al., 2018; Al-Bilbiese & Al-Nuaimi, 2017; Shakya & Tamang, 2020). Assurance is the organization’s keenness to support its employees and develop their skills and career (Zheng et al., 2018). Empathy indicates to the degree of care and concern for an organization with the psychological aspects of its employees (Abdullah et al., 2021; Li et al., 2019).

b) Employees’ retention

Employee retention is a vital source of competitive advantage, and it continues to pose one of the biggest challenges facing organizations in the current climate of intense competition for talent among organizations around the world (Chahal & Poonam, 2017). Therefore, employee retention is the motivational practice that will prevent the loss of high-value employees in the organization and encourage them to stay as long as possible for the benefit of both (Kurdi et al., 2020). Moreover, the concept of employee retention is linked to the hierarchical arrangements and policies used to stop the migration of essential personnel to other organizations (Alhmoud & Rjoub, 2019). According to Papa et al. (2018), the motivating and satisfactory factors provided by the organization, depending on its human resources strategy, make employees leave or stay, where the study concluded that motivated and satisfied employees have an intention to leave work about 62% less than those who are unsatisfied.

Azeez (2017) argued that material motivations are external factors affecting employee retention, while the two main factors for employee retention are the psychological factor related to a sense of respect and appreciation of achievement, and the organizational factor related to the procedural fairness and the degree of freedom afforded to make decisions. Further, Wassem et al. (2019) emphasized that employee retention is based on key factors that human resources management plays a fundamental role, these factors represented by (1) matching between employee’s abilities and skills with the job content, (2) compensations based on the foundations of fair performance evaluation, (3) promoting opportunities for career advancement and stability, (4) the relationship between the supervisor and employees, (5) the last factor, the positive and supportive work environment.

III. Study Model and Hypotheses

Organizations devote significant time, effort, and resources to investing in their employees, thereby they should always devise strategies that enable them to
ensure employee stability and increase their effectiveness. Studies have shown that material motivations have a clear role in encouraging employees to stay (Alhmoud & Rjoub, 2019; Bibi et al., 2017; Terera & Ngirande, 2014). However, there are many studies that indicated the existence of other factors that affect the ability of an organization to retain its employees and reduce the intention to leave their work (Dhanpat et al., 2018; Frye et al., 2020; Rakha, 2018). Among these factors is the prevailing culture that plays a prominent role in supporting the organizational climate that stimulates employee retention (Chahal & Poonam, 2017; Madueke & Emerole, 2017; Ndife, 2020; Remijius et al., 2019), the organization’s adoption of human resources policies that contribute to increasing the skill of employees and developing their careers that helps them remain in the organization (Azeez, 2017; Bibi et al., 2018; Khan et al., 2011; Wassem et al., 2019). This study is highlighted the impact of internal service quality on employee retention, where the organization’s endeavor to fulfill the desires of its employee by providing a set of distinctive services to them and integrating their goals with the organization’s goals enhances their sense of satisfaction and drives them to stay in the organization. As such, the main hypothesis of the study:

H1: There is a significant positive impact of internal service quality on employees’ retention.

When the organization allocates part of its assets and resources to meet the desires of employees, it contributes to increasing their productivity (Choi et al., 2015). It also improves their efficiency in performing their tasks by providing advanced equipment and tools, which is reflected in their performance (Abdullah et al., 2021; Pieter, 2020). The improved performance and higher productivity of the employees increases their sense of job justice and drives them to commit to and remain in the goals of the organization. Thus, the first sub-hypothesis of the study is represented by:

H1.1: There is a significant positive impact of tangibility on employees’ retention.

Fulfilling the employees’ desires within the agreed terms and specific timelines that are commensurate with them increases their sense of confidence towards the organization’s leadership (Gandhi et al., 2018; Khan et al., 2011; Shakya & Tamang, 2020). This feeling contributes to developing their loyalty as they consider the organization to be able to fulfill its obligations to its employees. Therefore, the second sub-hypothesis indicates:

H1.2: There is a significant positive impact of reliability on employees’ retention.

Employees often face challenges and problems while performing their duties. The ability of the organization’s leadership to support employees, solve their problems, and respond to challenges quickly enhances the feeling of job security among employees (F Latif et al., 2016; Mageto & Luke, 2019). The feeling of job security and the ability of the organization to respond to challenges is reflected in the employees’ desire to continue performing their duties optimally and staying in the organization. Hence, the third sub-hypothesis is as follows:

H1.3: There is a significant positive impact of responsiveness on employees’ retention.

Moreover, organizations seek to build the capabilities of their employees and develop their career through a range of services they provide such as training programs and consultations (Al-Bilbiese & Al-Nuaimi, 2017; Shakya & Tamang, 2020). Such services enhance employee satisfaction and their ability to innovate and make effort to achieve the organization’s goals and drive them to stay in their workplace. Hence, the fourth sub-hypothesis indicates:

H1.4: There is a significant positive impact of assurance on employees’ retention.

The employees make a lot of efforts in order to achieve the goals of the organization, whether it is a physical or intellectual effort (Gandhi et al., 2018; Li et al., 2019). Organizations should appreciate and respect these efforts by employees to enhance the work environment in which employees feel as family members and enable the organization to retain them. Thus, the fifth sub-hypothesis indicates:

H1.4: There is a significant positive impact of empathy on employees’ retention.

Figure 1 shows the proposed relationship between internal service quality and employee retention, as well as the main and subsidiary study hypotheses.
IV. STUDY METHODOLOGY

a) Study Population

The banking sector in Kuwait has the highest utilization rate of financial services compared to other countries in the Arab region, and it is the second largest economic sector in Kuwait next oil. There are 23 banks operating in Kuwait, including two government banks and 21 private banks. These banks carry out their activities through 353 local branches. This sector has contributed significantly to enhancing the added value and growth of Kuwait's GDP. Kuwaiti banks are the lifeblood of the national economy and the external front of the country through their branches spread in a large number of countries of the world. More than 50 percent of the workforce in the Kuwaiti private sector employs in Kuwaiti banks. Further, the Kuwaiti banking sector is one of the most highly trained economic sectors for human resources and the most use of technology.

The structure of this sector consists mainly of conventional banks and Islamic banks, as Kuwait plays a pioneering role in the fields of Islamic banking through the establishment of the second largest bank operating according to Islamic banking regulations, which is the Kuwait Finance House (KFH). This bank provides its clients with a variety of Islamic financial products and services through 519 branches with about 15,000 employees in many countries such as the United Kingdom, the United States of America and Canada, while the headquarters is in Kuwait. Consequently, the population of the current study consists of employees in KFH due to the importance of this sector in developing the national economy of Kuwait and the pioneering role of this bank in the fields of Islamic banking.

b) Data collection procedures

This study used quantitative data as a basis to test the impact of internal service quality on employees' retention. The primary data were collected through a self-report electronic questionnaire designed by Google Forms. However, the wide spread of KFH branches inside and outside Kuwait made it difficult to conduct a complete census. Consequently, the sampling method was used to collect data related to the study, whereby the purposive sampling method was used as Taherdoost (2016) recommended by sending an electronic questionnaire via e-mail to 860 employees in Kuwait branches whose number approximately 2430 employees, as indicated in the KFH fourth annual report 2020. The retrieved questionnaires reached 645, while the valid ones for statistical analysis reached 612 questionnaires, which constituted a response rate of 71.16%.

The demographic and functional characteristics of the study sample show that the majority of respondents are male (73.04%) compared to the percentage of females (26.96%). The results also show that the age group 30-40 ranked first (46.07%), followed by the age group 40-50 (34.47%), then the age group less than 30 (12.74%), and finally the age group higher than 50 (6.72%). In terms of educational level, most of the employees hold a bachelor's degree (52.61%), followed by a diploma degree (28.59%), while those with postgraduate degree have the lowest percentage (18.80%). Additionally, the results indicated that most of the respondents had job experience from 10 to 15 years (49.18%), followed by those with an experience of more than 15 years (36.60%), at the last, those who had experienced less than 10 years (14.22%).

c) Variable definition and measurement

To measure the concepts used in this study, the guidelines of Sekaran and Bougie (2016) were followed and also relied on empirical evidence and pretesting with academics and banking professionals to develop measures. Respondents were asked to rate the degree
of their agreement/disagreement with the items used to measure each variable according to the five-point Likert scale. The following is a definition of the study variables and the mechanism for developing the scale:

d) Independent variable

Internal service quality (ISQ) can be defined as the organization ability to meet the employees' requirements by using interactive internal marketing practices to motivate them toward achieving the organization's goals. ISQ was measured by 19 items developed according to (Mageto & Luke, 2019; Shakya & Tamang, 2020). These items distributed into five dimensions: four items for tangibility (e.g., the bank provide the modern equipment and tools needed to accomplish my duties perfectly), four items for reliability (e.g., we treat with faced problem seriously), three items for responsiveness (e.g., the bank climate motivate me to exchange information and knowledge), four items for assurance (e.g., the bank welcomes complaints and suggestions making by employees), and three items for empathy (e.g., I feel respect and trustworthy when dealing with my colleagues and managers).

e) Dependent variable

Employees' retention can be defined as strategies and procedures that enable an organization to shape a work climate that encourages its employees to remain for the longest possible period. This variable was measured through six items developed in accordance with (Bibi et al., 2018; Papa et al., 2018; Soundara Rajan & Jayaraman, 2018). The items (e.g., I see a bright future for myself within this bank) formed the first-order construct to measure employees' retention.

f) Control variables

The control variables were also included in this study by four categorical control variables: gender, age group, educational level, and experience. Gender was measured into two categories which were male and female. An age group was divided into four categories: the first category was less than 30 years, the second from 30 to less than 40 years, the third from 40 to less than 50 years, and the fourth 50 years and higher. Educational level was measured through three qualifications: diploma, bachelor, and postgraduate. Experience was classified into three levels: less than 10 years, from 10 to 15 years, and more than 15 years.

V. Study Results

a) Measurement model assessment

The reliability, convergent validity, and discriminant validity of first-order reflective latent constructs were evaluated as demonstrated in Figure 2. The Reliability was investigated at both construct and item level. Composite reliability (CR) and Cronbach's alpha (CA) indicators were used at the construct level, where all indicators' values exceeding the threshold of 0.70, indicating appropriate construct reliability (Al-Lozi et al., 2018; Henseler, 2017). The construct-to-item loadings were used to determine item reliability, with those below 0.60 being excluded, thereby all remaining items had loadings greater than 0.688. The average variance extracted (AVE) for each construct was calculated to ensure if it was greater than the lowest limit of accepted convergent validity of 0.50, where the lowest construct achieved the AVE value of 0.531, which extremely exceeds the lower limit.

Note: TAN: tangibility; REL: reliability; RES: responsiveness; ASU: assurance; EMP: empathy; RET: retention.

Figure 2: The measurement model - standardized coefficients

Discriminant validity was tested using the Fornell-Larcker criterion who assumed that discriminant validity achieved when the AVE square root of each construct is greater than its higher correlation with each other constructs and maximum shared variance (MSV) for each construct less than its AVE. Furthermore, all variance inflation factors (VIF) were less than 3, suggesting low multicollinearity (Al-Hawary & Al-Namlan, 2018; Cheah et al., 2019). The results of these tests seen in Table 1 indicated that first-order reflective measures were reliable and valid to complete further analyse.
Table 1: Evaluation of reliability, validity, and descriptive statistics of reflective constructs

<table>
<thead>
<tr>
<th>Constructs</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. TAN</td>
<td>.742</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. REL</td>
<td>.671</td>
<td>.728</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. RES</td>
<td>.528</td>
<td>.388</td>
<td>.754</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. ASU</td>
<td>.615</td>
<td>.494</td>
<td>.604</td>
<td>.744</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. EMP</td>
<td>.428</td>
<td>.681</td>
<td>.473</td>
<td>.419</td>
<td>.765</td>
<td></td>
</tr>
<tr>
<td>6. RET</td>
<td>.490</td>
<td>.527</td>
<td>.551</td>
<td>.434</td>
<td>.568</td>
<td>.768</td>
</tr>
<tr>
<td>LR</td>
<td>.688-814</td>
<td>.721-768</td>
<td>.692-794</td>
<td>.708-775</td>
<td>.730-821</td>
<td>.728-806</td>
</tr>
<tr>
<td>Mean</td>
<td>3.73</td>
<td>3.41</td>
<td>3.30</td>
<td>3.62</td>
<td>3.76</td>
<td>3.69</td>
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<tr>
<td>SD</td>
<td>.879</td>
<td>.925</td>
<td>.772</td>
<td>.970</td>
<td>.854</td>
<td>.943</td>
</tr>
<tr>
<td>AVE</td>
<td>.550</td>
<td>.531</td>
<td>.569</td>
<td>.553</td>
<td>.586</td>
<td>.590</td>
</tr>
<tr>
<td>MSV</td>
<td>.415</td>
<td>.506</td>
<td>.398</td>
<td>.511</td>
<td>.527</td>
<td>.534</td>
</tr>
<tr>
<td>CR</td>
<td>.830</td>
<td>.819</td>
<td>.798</td>
<td>.832</td>
<td>.809</td>
<td>.896</td>
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<tr>
<td>CA</td>
<td>.827</td>
<td>.812</td>
<td>.784</td>
<td>.830</td>
<td>.801</td>
<td>.889</td>
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<tr>
<td>VIF</td>
<td>1.68</td>
<td>2.05</td>
<td>1.99</td>
<td>1.37</td>
<td>2.16</td>
<td>---</td>
</tr>
</tbody>
</table>

Note: TAN: tangibility; REL: reliability; RES: responsiveness; ASU: assurance; EMP: empathy; RET: retention; LR: loadings range; SD: standard deviation; AVE: average variance extracted; MSV: maximum shared variance; CR: composite reliability; CA: Cronbach's alpha; VIF: variance inflation factor; Bold fonts in the table indicates to the square root of average variance extracted.

b) Structural model assessment

The structural model used to test the main hypothesis through the AMOS program is summarized in Figure 3, where it provides the values of the standard path coefficients (β) along with the values of goodness fit indices. The values of these indicators indicate suitable goodness of the test model, where the chi-square ratio (CMIN) was less than 3, the values of goodness of fit index (GFI) and comparative fit index (CFI) were greater than 0.90, and the value of root mean square error of approximation (RMSEA) less than 0.08 (Byrne, 2016). Moreover, the main hypothesis (H1) was confirmed as shown in Table 2, where there was a positive significant impact of internal service quality on employees' retention (β = 0.792, t = 28.25, P < 0.001).

Figure 3: The structural model for the main hypothesis testing
For testing the study sub-hypotheses emanating from the main hypothesis, the structural model shown in Figure 4 was constructed. The results demonstrated an appropriate goodness of this model based on the value of CMIN which was 1.89, the value of GFI and CFI that was higher than the minimum threshold of 0.90, and the value of RMSEA which was 0.046. Further, Table 2 is listed the standard path coefficients whose results supported all the sub-hypotheses that there was a significant positive impact of the internal service quality dimensions on employees' retention. Additionally, The results indicated that the greatest impact was for the dimension of responsiveness ($\beta = 0.548$, $t= 15.33$, $P< 0.001$), followed by tangibility ($\beta = 0.474$, $t= 14.80$, $P< 0.001$), then empathy ($\beta = 0.427$, $t= 11.84$, $P< 0.01$), assurance ($\beta = 0.405$, $t= 11.20$, $P< 0.01$), and reliability ($\beta = 0.391$, $t= 8.68$, $P< 0.05$) at the last ranked in terms of impact.

Note: TAN: tangibility; REL: reliability; RES: responsiveness; ASU: assurance; EMP: empathy; RET: retention; CMIN: chi-square ration; GFI: goodness of fit index; CFI: comparative fit index; RMSEA: root mean square error of approximation.

Figure 4: The structural model for the sub-hypotheses testing

Table 2

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Path</th>
<th>B</th>
<th>SE</th>
<th>$\beta$</th>
<th>t-value</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>ISQ  $\rightarrow$ RET</td>
<td>.876</td>
<td>.031</td>
<td>.792</td>
<td>28.25***</td>
<td>Supported</td>
</tr>
<tr>
<td>H1.1</td>
<td>TAN  $\rightarrow$ RET</td>
<td>.592</td>
<td>.040</td>
<td>.474</td>
<td>14.80***</td>
<td>Supported</td>
</tr>
<tr>
<td>H1.2</td>
<td>REL  $\rightarrow$ RET</td>
<td>.417</td>
<td>.048</td>
<td>.391</td>
<td>8.68*</td>
<td>Supported</td>
</tr>
<tr>
<td>H1.3</td>
<td>RES  $\rightarrow$ RET</td>
<td>.644</td>
<td>.042</td>
<td>.548</td>
<td>15.33***</td>
<td>Supported</td>
</tr>
<tr>
<td>H1.4</td>
<td>ASU  $\rightarrow$ RET</td>
<td>.493</td>
<td>.044</td>
<td>.405</td>
<td>11.20**</td>
<td>Supported</td>
</tr>
<tr>
<td>H1.5</td>
<td>EMP  $\rightarrow$ RET</td>
<td>.545</td>
<td>.046</td>
<td>.427</td>
<td>11.84**</td>
<td>Supported</td>
</tr>
</tbody>
</table>

Note: TAN: tangibility; REL: reliability; RES: responsiveness; ASU: assurance; EMP: empathy; RET: retention; ISQ: internal service quality; * significant at $p < 0.05$; ** significant at $p < 0.01$; *** significant at $p < 0.001$ (two-tailed test).
VI. Discussion

The aim of this study is to explore the impact of internal service quality on employee retention at Kuwait Finance House. The results show a moderate level of internal service quality which corresponds with (Abdullah et al., 2021; Li et al., 2019; Zheng et al., 2018). Consequently, the employees of KFH are aware of the efforts exerted by their leadership to provide them with a set of distinguished services and their continuous endeavor to integrate the objectives of the employees in the strategic plans of the bank with the aim of achieving job stability and providing them with well-being while performing their services to customers. Whereas, the results indicated a high level of employees’ retention, and this is consistent with (Papa et al., 2018). Therefore, the employees of KFH have loyalty and appreciation to the bank and are relatively satisfied with the work environment and the support provided by the bank’s leadership to them, thus they intend to continue to make efforts to achieve the planned goals.

Besides, the results of hypothesis testing indicated that the internal service quality positively affects employee retention, which is consistent with what was reached by (Frye et al., 2020; Khan et al., 2011). Therefore, the administration’s endeavor and efforts to provide a supportive organizational climate for employees by seriously responding to the challenges faced by employees in a timely manner and providing them with the necessary equipment and tools to perform their duties effectively and efficiently enables them to reach the required performance and increases their chances of retention in the long term. Moreover, the respect and appreciation that the management shows to employees as a result of their hard work and their eagerness to achieve the goals of the organization reflects positively on their psychological state, as it leads to their sense of satisfaction and enables them to do more to stay in the performance of services and tasks that contribute to strengthening the image of the organization among clients and urges them not to dispense for their work easily.

a) Study implications

Based on the results of the study, there are a set of suggestions and implications addressed to managers and leaders in the banking sector in general, and Islamic banks particularly. Theoretically, this study provided empirical evidence of the role of internal service quality in enhancing employee retention. Moreover, the research findings have contributed to the development of the conceptual framework for both internal service quality and employee retention that future researchers can benefit from. Practically, this study suggests that managers and leaders increase attention to the psychological aspects of employees, that they feel respect and appreciation for their efforts exerted and enable them to continue performing their work. The work environment greatly affects the behavior and decisions of employees; thus, managers and leaders should build a work environment that attracts talent and stimulates their stay in the organization through the application of modern technology in the performance of work and the provision of infrastructure and material resources to facilitate the implementation of their work. Moreover, they have to go towards formulating human resource strategies that help in retaining employees by increasing trust between employees and the leadership of the organization and integrating their personal goals with the overall goals of the organization and achieving their well-being.

b) Limitations and future research directions

This study has some limitations that need to be discussed. Firstly, data was collected from KFH branches for reasons related to financial constraints and accessibility. Hence, the scope of future research could be expanded to include other banks in Kuwait or branches out boarder of Kuwait. Secondly, only employees were considered participating in this study. Thus, results can be generalized by selecting managers and leaders as respondents in future research. It is also suggested that other sectors such as manufacturing and telecommunications be studied in future research. Last but not least, this study reported a partial effect of internal service quality on employee retention, indicating that internal service quality is not the only factor that contributes to employee retention. Therefore, future studies should incorporate some other variables such as organizational culture, job security, and strategic leadership.

References Références Referencias


Influence of Moderating Effect of People Strategy on Strategic Human Resources Functions on Organizational Performance of Insurance Industry of Sri Lanka

By Chandrasiri Gannile, Mohd ShukriAb Yajid, Ali Khatibi & Dr. Ferdous Azam

Abstract- People strategy simply aim to establish best practice in each of the HR policy areas, there have been attempts to describe people strategy as an internally coherent set of HR policies and practices. This endeavor has proven to be both difficult and elusive. As one might expect, there appears to be no one single ideal type of people strategy with a set of HR policies and practices that can be adopted by organizations seeking to manage their people more strategically (Lynda Gratton, Catherine Truss, 2003). People of a firm is a strategic asset and a very important element and the backbone of every firm (Anam, Rashi, Rad & Mizana, 2013). People strategy plays a critical role in harmonizing strategic human resource management implementation in an organization (Linda Gratten, Catherine Truss, 2012).

Keywords: people strategy, HR strategies, firm performance, HR policies, skills, staff, shared values/style.

GJMBR-A Classification: JEL Code: O15

Strictly as per the compliance and regulations of:
Influence of Moderating Effect of People Strategy on Startegic Human Resources Functions on Organizational Performance of Insurance Industry of Sri Lanka

Chandrasiri Gannile α, Mohd ShukriAb Yajidα, Ali Khatibiσ & Dr. Ferdous AzamѠ

Abstract- People strategy simply aim to establish best practice in each of the HR policy areas, there have been attempts to describe people strategy as an internally coherent set of HR policies and practices. This endeavor has proven to be both difficult and elusive. As one might expect, there appears to be no one single ideal type of people strategy with a set of HR policies and practices that can be adopted by organizations seeking to manage their people more strategically (Lynda Gratton, Catherine Truss, 2003). People of a firm is a strategic asset and a very important element and the backbone of every firm (Anam, Rashi, Rad & Mizana, 2013). People strategy plays a critical role in harmonizing strategic human resource management implementation in an organization (Linda Gratten, Catherine Truss, 2012). Converting Human Resources policies into action is absolutely necessary and important in delivering the people management functions. There is a real gap between well written down HR policies and implementation of those policies to make it real applications in terms operational people management practices in an organization (Linda Gratten, Catherine Truss, 2012). The managers and line management personnel need to realistically follow human resources policy guidelines when appraising firm’s performance as well as employee performance without deviations whereas mediocre managers are lenient against applicable methods of both organization wide and employee wide performance evaluations. This hinders organizations in identifying real performance gaps in the organization (Linda Gratten, Catherine Truss, 2012; Lynda Gratton, Catherine Truss, 2003) The researcher focuses on mainly on existing body of knowledge in the research area, focusing on how people of a business firm influence the performance of the firm and what has been researched in the intended area.

Keywords: people strategy, HR strategies, firm performance, HR policies, skills, staff, shared values/style.

I. Introduction

This study focusses on how key strategic HR functions go hand in hand in a business firm with its people or human resources as the key driver of the firm with other resources both tangible and intangible then discusses about key strategic HR functions and their impact on people strategy. The research further emphasizes and explains the relevant and important of SHRM practice and specific business models. The human resource management strategy is a set of inner-organizational people management strategies. The effective application of the human resource management strategy in different situations can help enterprises use employees effectively for the completion of organizational targets. According to definitions of the human resource management strategy made by many scholars and experts, many researchers attempted to set types of the people management strategies (Fu-Jin Wang, Shieh Chich-Jen and Tang Mei-Ling, 2010).Every firms’ top priority is to manage the human resources. The level of the productivity and the efficiency of employees should be increased to take maximum contribution (Gamage & Imbulana, 2013). After identification of variables that can operate in a situation and the relationships among these can be established. The research is based on the theoretical foundation which is logically developed describes and elaborated network of connections among the variables.

The dependent variable is organizational performance which is the variable of primary interest whilst explaining the dependent variable with three independent variables, staff, skills shared values/styles and people strategy as the moderating variable of the study.

Staff is one of the most valuable resource of every organization that drives suitable recruitment, selection, placement, development appraisals, rewarding, recognition moral and initiation and retention of staff positively impacts the organizational performance.

Skills are the abilities that firm’s employee performs to the expectations of management which
includes capabilities and competencies. Skills positively impacts on organizational performance.

Shared values/style refer to overall impact of processes and system on the organization with regard to employees and managers and company management plan which is congruent and being implemented. Shared values/style positively impacts the organizational performance.

a) Insurance industry

Insurance industry is a people based, knowledge driven business that provides unique financial services to the growth and development of every economy. Such specialized financial services ranging from the underwriting of risks inherent in economic entities and the mobilization of large amount of funds through premiums for long term investments. The risk absorption role of insurers promotes financial stability in the financial markets and provides a sense of peace to economic entities. The insurance companies’ ability to cover risk in the economy hinges on their capacity to create profit or value for their shareholders. A well-developed and evolved insurance industry is a boon for economic development as it provides long-term funds for development (Charumathi, 2012 and Agiobenebo and Ezirim, 2002). People are a critical deciding variable factor for firm’s performance, actively involved by its people in relation to firm’s earnings, profits, appreciations in value as evidenced by the rise in the entity’s share price. In insurance, performance is normally expressed in net premiums earned, profitability from underwriting activities, annual turnover, returns on investment and return on equity. These measures can be classified as profit performance measures and investment performance measures. Profit performance includes the profits measured in monetary terms. Simply, it is the difference between the revenues and expenses. These two factors, revenue and expenditure are in turn influenced by firm-specific characteristics, industry features and macroeconomic variables. Investment performance can take two different forms. One the return on assets employed in the business other than cash, and two, the return on the investment operations of the surplus of cash at various levels earned on operations (Asimakopoulos, Samitas, and Papadogonas, 2009).

II. Staff

A firm is directly linked to the performance of those who work for that business. By the same principal, under-achievement can be a result of organization failures. Because hiring the wrong people or failing to anticipate fluctuations in hiring needs can be costly, it is important that conscious efforts are put into human resource planning (Biles & Holmberg, 1980; Djabatey, 2012). It has also been argued that in order for the enterprise to build and sustain the competitive advantage, proper staffing is critical (Djabatey, 2012). Thus, recruitment and selection have become imperative in organizations because individuals need to be attracted on a timely basis, in sufficient numbers and with appropriate qualifications. Empirical research has emphasized that the adoption of organizational human resources capabilities on firm performance create competitive edge (Kogo and Linda, 2018).

Qualified staff is one of the most valuable resources of every organization. The ability of an organization to implement company strategic plan is largely dependent on its ability to recruit, select, place, appraise and develop appropriate employees. So, it’s crucial for firms to exploit proper methods to recruit and retain qualified employees, and nurture, develop and maintain a high level of employees’ morale and motivation among them (Kim, Lee, & Gosain, 2005; Metaxiotis, Zafeiropoulos, Nikolaiakou, Psarras, 2005; Skok & Legge, 2002; Umble et. al., 2003; Verville et. al., 2005; Willcocks & Sykes, 2000). Motivation flourishes employee output. Employee motivation is a critical aspect at the organization which leads to the performance and survival (Mohammed Sani Abdullahi, Zainab Lawan Gwadabe & Mu’awiyya Bature Ibrahim, 2018)

Dimensions of staff are mostly considered in one of ways. At the hard end of the dimensions, elements, appraisals systems, pay scales, formal training programs, at the soft end, it is about staff morale, attitude, motivation and behavior (Kogo and Linda, 2018).

Firms that use people in the best manner best, rapidly shift their executives into positions with proper responsibility though various live support mechanism like assigned mentors, fast-track programs, and carefully articulated opportunities for reaching to top management are of their people management approach (Anam, Rashi, Rad & Mizana, 2013).

A firm is directly linked to the performance of those who contribute for that business. In the same manner, under-performance can be a cause of firm’s failures. Whereas recruiting unmatched people or inability to anticipate fluctuations in hiring needs can be expensive therefore it is important that care full efforts are made into human resource planning (Biles & Holmberg, 1980; Djabatey, 2012). Similarly, it is argued that in order to build and sustain the competitive advantage, proper staffing is crucial for the organization (Djabatey, 2012). Thus, recruitment and selection have become imperative in the firm because individuals need to be attracted on a timely basis, in sufficient numbers with appropriate qualifications.

Firms staff as a pool of resources to be nurtured, developed, guarded, and allocated is one of the many ways to turn the “Staff” dimension into firms performance dimension with management practice (Julien & Phillips, 2014).
a) Skills

Skills development and development assets are important as a subsystem within the many activities of HR functions. It is further highlighted that human resources are the most dynamic element of all resources of any firm (Riggio, 2015). Hence adequate focused attention and significance must be paid to train employee skills development and capabilities in the organization. Aamodt (2007) opine that skills training is the preparation of individuals in a firm for a task, job or an occupation by getting specific skills needed. Training is usually inbuilt to the job rather than personal (Armstrong, 2003). Training is the use of integrated and planned instruction mechanism to encourage learning (Armstrong, 2003). Training enables the implementation of formal processes to instill knowledge and help employees to get the needed skills to satisfactorily carry out their duties. The emphasis on training is drawn to practical skills which is concerned with the adoption and utilization of techniques and processes (Cole, 2005; Okoh, 2005). A. L. Damoe et al. (2012) asserted in their study that highly skillful and knowledgeable staff is very necessary for the improvement of the organization. Employee skills which represents employee designation wise competencies critically add value for increasing service delivery performance in a firm (Hisham Makki Hanafi, Siddig Balal Ibrahim, 2019).

Workforce’s skills and potential behavior with the strategic priorities is aligned with the firm has increasingly been referred to as Strategic Human Resource Management (SHRM) (Wright, P. M., & Ulrich, M. D., 2017). Training also has impact on the return on investment since the organizational performance depends on employee performance because human resource capital of organization plays an important role in the growth and development of such organization (Kenny S., Victoria, 2019).

Human Resource Development plays significant role for a firm to compete with a changing business environment and ultimate effect goes to firm’s performance (Kenny S., Victoria, 2019). A clear line of sight is there between unique and difficult-to-transfer employee skills and the firm’s strength to continuously outperform competitors in the marketplace (Kryscynski, D., & Ulrich, D., 2015). Firms invest huge amount on the human resource capital because the performance of human resource will ultimately increase the performance of the employee and the organization. Performance is a major multidimensional construct aimed to achieve results and has a strong link to strategic goals of an organization (Raja, Furgual & Mohammed, 2011; Gambo, 2018).

b) Shared Values/Style

Shared values/ style are defined as guiding principles and elementary thoughts whereas a firm’s business is built up on (Peters & Waterman, 1982). This term refers to the degree to which a key management team recognizes and trusts that the company goals (Pinto et al., 1993) as well as superordinate goals enhance the likelihood of finding good quality solutions in a timely manner that should be organized in a manner that enables the management team to describe in detail what the company strives to achieve (Chien et al., 2008). Three dimensions are identified here as affecting factors on shared values:

Shared beliefs refer to a belief about the overall impact of processes and systems on the organization with employees and managers (Amoako-Gyampah & Salam, 2004). It understands that if employees have a shared knowledge on Management plan which is being implemented, it is likely to foster trust and cooperation among them that can lead to implementation success (Amoako-Gyampah & Salam, 2004). Hence, it is important for managers to be aware early in firm’s plans whether different people of the organization have several opinions on the shared beliefs about the concept.

Under firm’s style, organizational leadership play a critical role in visioning the people strategy of the firm, Employee performance and leadership competencies are the key factors that contributet organizational performance. Competent leaders influence their fellow staff as well as Organizational leaders play a vital role in the achievement of organizational goals and objectives by creating a conducive environment that influences employees’ behaviors, attitudes, and motivations (Babcock-Roberson and Strickland, 2010); Mastrangelo et al., 2014).

The firm’s success depends on the competency of its leaders and the organizational culture as well as the beliefs and values of an organization’s influence firm’s performance (Soebbing et al., 2015). The competency of a leader is best measured by the performance of the firm. Competent leadership is built upon various variables and characteristics, including values, knowledge, intellectual drive, ethics, charisma, creativity, self-confidence, and courage (Pradhan and Pradhan, 2015).

c) Organizational Performance

The business firms face a volatile market situation. In order to create and sustain competitive advantage in this type of environment, organizations must continually improve their business performance. Increasingly, organizations are recognizing the potential of their human resources as a source of sustained competitive advantage. Linked to this, more and more organizations are relying on measurement approaches, such as workforce scorecards, in order to gain insight into how the human resources in their organizations add value (Iqbal, A., 2019).

The increasing trend in measurement is further stimulated by a growing number of studies that show a
positive relationship between human resource management and organizational performance. The relationship between HRM and firm performance has been a hotly debated topic over the last two decades, with the great bulk of the primary scientific research coming from the USA and to a lesser extent.

In a world in which financial results are measured, a failure to measure human resource policy and practice implementation dooms this to second-class status, oversight, neglect, and potential failure. The feedback from the measurements is essential to refine and further develop implementation ideas as well as to learn how well the practices are actually achieving their intended results (Combs, J., Liu, Y., Hall, A., & Ketchen, D., 2006).

III. Methodology

The methodology consists of a research framework, research process, research design, defining of variables, sampling framework, sources of the questionnaire, providing hypotheses to be tested based on the literature, theoretical and empirical findings. The information sources, types and methods of data analysis were included.

This research study examines the impact of moderating effect of people strategy on strategic human resource management functions on organizational performance of insurance companies in Sri Lanka as well as examining whether the impact of statistical practices on organizational performance is contingent on organizations’ people factor. A multi-respondent survey of 29 licensed insurance companies was undertaken and data collected was subjected to correlation analysis as well as descriptive statistics, applying SPSS and AMOS statistical tools in pursuance of the study’s stated objectives. The stated research area was measured through a well administered questionnaire which was developed based on SHRM functions and performance dimensions, systems, staff, skills, HR statistics, and organizational performance. The study is based on literature survey, thus it is a deductive research. The study is mainly based on primary data. The population is employees of insurance companies. The sample consists of 576 which is adequate for the study. The data was collected via a structured questionnaire. The questionnaire was shared to the respondents with online link, Google form and by email, depending on the situational requirements.

a) Research Model and Hypotheses

Whilst the researcher focuses on this research study to examine the influence of impact of moderating effect of people strategy on strategic human resource management functions on organizational performance, following is the research model designed for the study. The dependent variable is considered as the organizational performance. The research model consists of eight independent variables such as strategy, structure, systems, staff, skills, shared values, style, statistics and people strategy as one moderating variable whereas researcher has taken specific research study on the above area of research. As depicted in Figure 3.1, independent variables are mainly derived from Mackency model (2007).

![Figure 3.1: Conceptual Framework](Source: Developed by the Researcher)
The figure 3.1, Conceptual Framework consists of eight independent variables as indicated above, strategy, structure, systems, staff, skills, shared values, style, and statistics and people strategy as one moderating variable.

b) Research Hypothesis

The researcher brings forward hypothesis which is a tentative explanation made by the researcher on what the researcher considers the outcome of the research will be. The hypotheses are derived from the relevant literature and the scientific approach for the research, generally being, after presenting the research hypotheses. In the context of moderating effect of people strategy, SHRM factors and organizational performance research, commonly several hypotheses are tested in a large number of research studies with different frameworks. Following this, hypotheses are drawn according to the research questions and the objectives of the study.

c) Major Hypothesis in the Analysis

H1: There is a significant positive relationship between people strategy and organizational performance.

H2: The relationship between staff and skills is moderated by people strategy.

H3: The relationship between shared value / style is moderated by people strategy.

The research objectives of this theses are aligned with the hypothesis developed on the theoretical framework which is presented in figure 3.1.

IV. Analysis of Data

The analysis was based on the statistical analysis, findings of the survey instrument, data analysis and the final results of the research study. This would be depicted in charts and relevant tables.

The insurance industry talent market is more competitive than ever with the rise of new technologies, climbing costs of recruitment and increasing demand for new skills. To be successful in the rapidly changing market, it is needed to rethink the approach to statistical analysis on moderating effect on SHRM contribution and Organizational Performance. The Statistical Package of Social Science (SPSS) 21 and Analysis of Moment Structure (AMOS) 21 packages were used to analyze the quantitative data. Structural equation method is reviewed including the results of the confirmatory factor analysis of each construct. then, the validity, reliability and standardized residuals of each construct are explained. Measurement models as well as structural models of the study are submitted. Hypotheses testing are discussed and presented. The moderating effects of people strategy are also presented respectively.

<table>
<thead>
<tr>
<th>Table 4.1: Inter-item Correlation Reliability</th>
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</thead>
<tbody>
<tr>
<td><strong>Concept</strong></td>
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<tr>
<td>Initial</td>
</tr>
<tr>
<td>Strategy</td>
</tr>
<tr>
<td>Structure</td>
</tr>
<tr>
<td>Systems</td>
</tr>
<tr>
<td>Staff</td>
</tr>
<tr>
<td>Skills</td>
</tr>
<tr>
<td>HR Statistics</td>
</tr>
<tr>
<td>Shared Values/Style</td>
</tr>
<tr>
<td>People Strategy</td>
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<tr>
<td>Organizational Perf(OP)</td>
</tr>
</tbody>
</table>

a) Staff

There are five items (SAF1, SAF2, SAF3, SAF4, SAF5) in the SAF construct. The descriptive summary and Inter-item correlations values for items in SAF construct are depicted in Table 4.1 the Cronbach’s alpha for SAF construct was 0.712, above the recommended cut-off 0.70 (De Vellis, 2003). The Inter item correlation matrix revealed the highest correlation values for SAF construct items were more than 0.3 (Hair, et al., 1998). As a result, no items were removed from the SAF construct.
Figure 3.2: Initial measurement model for constructs of staff.

There are five items (SAF1, SAF2, SAF3, SAF4, SAF5) in the SAF construct. The descriptive summary and inter-item correlations values for items in SAF construct are depicted in Table 3.8.

The fit indices indicated a good fit (CMIN/DF < 3.00, CFI < 0.3, and RMSEA < 0.08) in the Initial measurement model for SAF construct.

Figure 3.3: Final model of the SAF construct

The figure 3.3, final model of the SAF construct aligned with the data evidenced by the Normed Chi-square, CFI, and RMSEA were in the desired value (Chinna, 2013). Further, factor loading of all the items was above .5, indicating adequate individual item reliability (Hair, et al., 1995).

Then the final model of the SAF construct aligned with the data evidenced by the Normed Chi-square, CFI, and RMSEA were in the desired value (Chinna, 2013). Further, factor loading of all the items was above .5, (Table 4.1) indicating adequate individual item reliability (Hair, et al., 1995).
Table 4.2: Factor loading of all items SAF

| SAF1 | --- | F6 | 1.000 |  |  |  |  |
| SAF2 | --- | F6 |  .733 | .087 | 8.453 | *** | par 1 |
| SAF3 | --- | F6 |  .959 | .099 | 9.677 | *** | par 2 |
| SAF4 | --- | F6 |  .329 | .074 | 4.421 | *** | par 3 |
| SAF5 | --- | F6 |  1.215 | .125 | 9.709 | *** | par 4 |

b) Skills

There are four items (SKI3, SKI4, SKI5, SKI6) in the SKI construct. The descriptive summary and Inter-item correlations values for items in SKI construct are depicted in Table 4.1. The Cronbach’s alpha for SKI construct was 0.846, above the recommended cut-off 0.70 (De Vellis, 2003). The Inter item correlation matrix revealed (Table 4.1) the highest correlation values for SKI construct items were more than 0.3 (Hair et al., 1998).

Figure 3.4: Initial measurement model for constructs of skill

There are four items (SKI3, SKI4, SKI5, SKI6) in the SKI construct. The descriptive summary and Inter-item correlations values for items in SKI construct are depicted in Table 4.1.

The fit indices indicated a poor fit (CMIN/DF < 3.00, CFI< 0.3, and; RMSEA<0.08) in the Initial measurement model for SKI construct.

Then the final model of the SKI construct aligned with the data evidenced by the Normed Chi-square, CFI, and RMSEA were in the desired value (Chinna, 2013). Further, the factor loading of all the items was above .5, (Table 4.1) indicating adequate Individual item reliability (Hair, et al. 1995).

Table 4.3: Factor loading of all items skill

| SKI3 | Estimate | .000 |  |  |  |  |  |
| SKI4 | 1.155 | .094 | 12.291 | *** |  |  |  |
| SKI5 | 1.063 | .090 | 11.790 | *** |  |  |  |
| SKI6 | 1.034 | .092 | 11.198 | *** |  |  |  |

c) Shared values/Style

There are four items (SVI1, SVI2, SVI3, SVI4, and SVI5) in the SV construct. The descriptive summary and Inter-item correlations values for items in SV construct are depicted in Table 4.1. The Cronbach’s alpha for SVI construct was 0.710, above the recommended cut-off 0.70 (De Vellis, 2003). The Inter item correlation matrix revealed (Table 4.1) the highest correlation values for PE construct items were more than 0.3 (Hair, et al., 1998). As a result, no items were removed from the SV construct.

Then the final model of the SV construct aligned with the data evidenced by the Normed Chi-square, CFI, and RMSEA was in desired value (Chinna, 2013). Further, the factor loading of all the items was above .5, indicating adequate Individual item reliability (Hair, et al., 1995).
The final model of the SV construct aligned with the data evidenced by the Normed Chi-square, CFI, and RMSEA was in desired value (Chinna, 2013). Further, factor loading of all the items was above .5, indicating adequate Individual item reliability (Hair, et al1995).

The final model of the SV construct aligned with the data evidenced by the Normed Chi-square, CFI, and RMSEA was in desired value (Chinna, 2013). Further, factor loading of all the items was above .5, indicating adequate Individual item reliability (Hair, et al., 1995).

V. RESULTS OF TESTING THE HYPOTHESES

Considering the results of SEM, this section answers the hypotheses developed. Hypotheses were tested through the proposed final model of the study, which was developed by the final structural model (Figure 3.6). Summary conclusions for the 12 hypothesized relationships are provided in Table 4.6.

H1: There is a significant positive relationship between people strategy and organizational performance. Tests the relationship between the Independent variable of people strategy and the dependent variable of organizational performance. The results (Figure 3.6) show that there is a positive influence between people strategy and organizational performance ($\beta=0.15$, $p < 0.05$).

H2: The relationship between staff and skills is moderated by people strategy.

H3: The relationship between shared value/style is moderated by people strategy.

a) Testing the moderating effect of people strategy

Before testing the moderating effect, people strategy constructs were assessed with the internal consistency reliability (Cronbach’s alpha), the descriptive summary and the inter-item correlation values. Each item in the construct was measured on a Likert scale of 1 to 5, where a response of 1 indicates strong disagreement while a value of 5 indicates strong agreement to the statements. There are eight items in this construct (Appendix -2A). The statements are formulated as positive. Cronbach’s alpha was 0.916.

In this case, the hypothesis that the moderating effects of people strategy between skill, staff and shared value style is significant and supported.
Figure 3.6: People strategy moderate skills in organizational performance to identify the impact of strategic HRM in insurance industry

The figure 3.6 depicts moderating effect of people strategy whereas constructs were assessed with the internal consistency reliability (Cronbach’s alpha), the descriptive summary and the inter-item correlation values. Each item in the construct was measured on a Likert scale of 1 to 5, where a response of 1 indicates strong disagreement while a value of 5 indicates strong agreement to the statements. There are eight items in this construct. The statements are formulated as positive. Cronbach’s alpha was 0.916.

Table 4.4: Moderating effect of people strategy on SKI-OP relationship

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>S.E</th>
<th>C.R</th>
<th>P</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational Performance</td>
<td>Skill</td>
<td>0.017</td>
<td>0.084</td>
<td>.204</td>
<td>&lt;.003</td>
</tr>
<tr>
<td>Organizational Performance</td>
<td>Staff</td>
<td>0.836</td>
<td>.024</td>
<td>.935</td>
<td>.02</td>
</tr>
<tr>
<td>Organizational Performance</td>
<td>Shared values</td>
<td>0.24</td>
<td>.021</td>
<td>.503</td>
<td>.012</td>
</tr>
<tr>
<td>H1</td>
<td>There is a significance positive relationship between peoples’ strategy and OP</td>
<td></td>
<td></td>
<td></td>
<td>Supported</td>
</tr>
<tr>
<td>H2</td>
<td>The relationship between staff and skills is moderated by people strategy</td>
<td></td>
<td></td>
<td></td>
<td>Supported</td>
</tr>
<tr>
<td>H3</td>
<td>The relationship between shared value and style is moderated by people strategy</td>
<td></td>
<td></td>
<td></td>
<td>Supported</td>
</tr>
</tbody>
</table>

VI. FINDINGS AND CONCLUSIONS

The main purpose is to highlight the discussion of research questions and hypotheses based on the conceptual framework. Then it endeavors to address the theoretical and practical implications, conclusions and suggestions of the study. The chapter concludes with recommendations for future research directions.

This study is an empirical research on influence of firm’s performance between HR strategy and firm’s outcomes (Armstrong, M., & Brown, D., 2019). The main objective of the study was to investigate the relationship between SHRM practices, people strategy and their organizational performance in insurance industry of Sri Lanka. The results of the study would determine management implications and offer valuable recommendations to the insurance industry of Sri Lanka, in order to impact organizational performance through strategic HRM and people strategy.

At the outset a significant focus is shed on firm’s performance between HR strategy and firm’s outcomes (Armstrong, M., & Brown, D., 2019). The main objective of the study was to investigate the relationship between SHRM practices, people strategy and their
impact on organizational performance in insurance industry. The results further identify the SHRM practices which are most significant in achieving organizational human resources performance. Primary objectives of an insurance company would be to retain its existing employees as people of an organization would translate and contribute towards the profitability of an insurance company. Employee commitment not only warrants positive human formation and repeat organization performance and possibility with greater value in terms of superior customer service and also with other benefits such as cross buying intentions (Barana and Sophia, 2014).

a) Summary of the Findings

The study was intended to investigate and examine the impact of moderating effect of people strategy on strategic human resource management functions on organizational performance of insurance companies as an industry both life and non-life insurance companies. Study collect primary data by using questionnaire and while secondary data was collected by using secondary source like review various documents. The main important areas of the study concern include identification of the current situation of HRM functions in insurance companies, determination of relationship between SHRM and performance of insurance companies to examine the factors affecting effective implementation of SHRM functions in insurance companies.

i. Staff

This hypothesis examines the relationship between organizational performance and adoption and effective management of staff. The results showed that staff had the most potent effect on organizational performance of all the main determinants. The results are consistent with previous studies.

The enterprise is directly linked to the performance of those who work for that business. By the same token, under-achievement can be a result of work place failures. Because, hiring the wrong people or failing to anticipate fluctuations in hiring needs can be costly, it is important that conscious efforts are put into human resource planning (Biles & Holmberg, 1980; Djabatey, 2012).

ii. Skills

This hypothesis examines the relationship between organizational performance and adoption toward employee skills. The results showed that employee skills had the most potent effect on organizational performance of all the main determinants. The results are consistent with previous studies as indicated. Riggio (2009) explained that skills development and development assets important as a subsystem embedded within the many operations of HR functions.

iii. Shared Values/Style

This hypothesis examines the relationship between organizational performance and adoption toward Shared Values. The results showed that Shared Values/Style had potent effect on of all the organizational performance main determinants. The results are consistent with previous studies.

Shared values/ super ordinate goals are described as guiding concepts and fundamental ideas around which a business and its performance is built (Peters & Waterman, 1982). In management, the term refers to the degree to which a management team accepts and believes the company goals (Pinto et al., 1993).

The hypothesis examines the relationship between organizational performance and adoption toward shared values/style. The results showed that Shared Value/Style had the potent effect on organizational performance of all the main determinants. The results are consistent with previous studies. Hence the following hypothesis is established.

iv. People Strategy

This hypothesis examines the relationship between organizational performance and adoption of people strategy. The results showed that people strategy had the most potent effect on organizational performance of all the main determinants. The results are consistent with previous studies.

To improve firm performance and create competitive advantage, people strategy positively impact on organizational performance with the adoption of people strategy which tend to create a significant contribution on organizational performance (Delloitte, 2016), and this in turn becomes a great boost for further improvement on innovative people management practices (Noe et al., 2003; Youndt et al., 2004). According to Horngren (2000) and Anantharman (2003), organizations link the maximization of performance with adoption people strategy practices (3-Dimensional people strategy Byrne 2003).

b) The relationship between staff skill is moderated by people strategy

This hypothesis examines the relationship between staff skill is moderated by people strategy and adoption of staff skill. The results show staff skill is moderated by people strategy had the most potent impact on organizational performance of all the main determinants. The results are consistent with previous studies.

Recent theoretical studies in business strategy have indicated that firm competitive advantage could be generated from a firm’s people factor through creating value in a manner that is rare and difficult for competitors to imitate (Barney, 2011).
c) **The relationship between staff shared value and style is moderated by people strategy**

This hypothesis examines and establishes that recent theoretical studies in business strategy have indicated that firm competitive advantage could be moderated by firm’s shared values and style could be moderated by people strategy with its underpinning HR policies and processes, that an organization develops and implements for managing its people to optimal effect. Every company should adapt a people strategy and simply aim to establish best practice in each of the HR policy areas. There have been attempts to describe people strategy as an internally coherent set of HR policies and practices. People strategy has proven to be both difficult and elusive. A firm might expect, there appears to be no one single “type” of people strategy with a set of HR policies and practices that can be adopted by organizations seeking to manage their people more strategically which drive towards a high performing business entity (Lynda Gratton and Catherine Truss, 2003; 2014).

**VII. Recommendations**

a) **Staff**

The cornerstone for motivation, reward and recognition is management capability. Skilled and experienced managers are able to clearly articulate what is expected from them and to ensure quality of output, whilst recognizing and praising staff’s contribution. They are able to ensure that staff are supported in their professional endeavors, understand how their role contributes to the corporate objectives and overall success of the organization.

Staff capability is the key to success and the roles played by managers and leaders in the insurance industry are paramount in the achievement of an improved staff experience. As such, insurance companies will have to commence development of key staff with proper People Management initiatives. Among such initiatives there can be HR.

b) **Skills**

- Recruitment and retention: there is a perception that external candidates are often favored over internal for vacancies so some staff look outside in order to progress.
- People in the right place – the right place operationally to make best use of their skills and the right place psychologically and emotionally, in terms of how inspired they feel by the Company and its mission.
- Psychometric Assessments for Recruitment & Selection.
- Design psychometric testing process to be used for recruitment and promotions. This is a method that will be adopted for the measurement of the mind, thereby, giving the recruiters a better overall evaluation of candidates in order to secure the best fit for a job role responsibility.

c) **Shared Values /Style**

Employees should be able to link their everyday tasks and responsibilities to the values in the organization. Staff need to understand why and what they do is important.

- Build capacity of staff, integrate with work processes, enhance training and learning management systems,
- Develop leadership and management capabilities,
- Review leadership talent,
- Enhance the skills and capacities of national staff.

**References Références Referencias**


A Study on the Winner and Laggard Sectors Post COVID-19 Pandemic in India

By Dr. Shashank Raina & Dr. Dinesh Sharma

Abstract - The present pandemic situation has not only impacted the human lives but also have an adverse impact on the businesses in India. Factors including slower growth rates, inadequate health infrastructure, and significant population living in poverty are amongst the key reasons causing slower domestic demand. These factors can lead to slowdown in the demand domestically and can further lead to job losses/ furloughs in the various sectors across India. At an overall level, GDP has contacted by 7.3% during the financial year 2020-21. For the ongoing year, Reserve Bank of India (RBI) is expecting growth rate of 10.5%. However, global rating agencies have downgraded economic growth rate for India to consider second wave of COVID-19. Initially, Moody’s had projected 13.7% of growth rate for financial year 2021-22 but decreased it to 9.3% recently.

Keywords: COVID-19, GDP, pandemic, reserve bank of India (RBI), economy.

GJMBR-A Classification: JEL Code: H83

Strictly as per the compliance and regulations of:

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Keywords: COVID-19, GDP, pandemic, reserve bank of India (RBI), economy.

I. Introduction

Before the outbreak of COVID-19, Indian economy was in a negative state and the pandemic has created an unmatched shock to the growth rate of the economy. Current pandemic COVID-19 is similar to the other crises like the Great Depression, 2008 crisis, etc. Economic impact of the crises has been immense and has led to the fall in the growth rate of the economy. According to World Bank, Indian economy had numerous pre risks, hampering the economic outlook and the current crises has caused demonstrating impact on economy’s growth rate with lowest figures since India’s economic liberalization in the 1990s.

On May 26th, 2020, CRISIL declared the current crises to be worst since India’s independence along with a research by India’s leading bank State Bank of India estimated a decline of over 40% in the economic growth in Q1’203. However, it stated that the contraction will be unequal and dependent upon the various factors including state and sector.

On September 01st 2020, Ministry of Statistics of India announced the GDP figures for Q1 (April to June) FY’21, stating a contraction of 24% in comparison to the figures same period previous year.

Economic activity reduced from 82.9 in March to 44.7 in April 2020 as per Nomura India Business Resumption Index. However, economic activity went back to pre-COVID level in September 2020. Unemployment rate increased from 6.7% in March 2020 to 26% in April 2020 and then came back down to pre-COVID levels by June 2020. More than 140 million people have lost their employment due to COVID while a lot of people have experienced salary cuts. Also, more than 45% of households across India has reported fall in their income as compared to the previous year.

Various other brokers have reduced their GDP growth estimations for India. Nomura has downgraded its projection for economic growth to 12.6% from 13.5%. JP Morgan has reduced its estimates for GDP from 11% from 13.5% and UBS has downgraded its projection to 10%

Indian economy has lost more than ₹32,000 crore (~$4.5 billion) per day during the initial 21 days of lockdown due to COVID-19 outbreak. Also, more than 50% businesses got affected due to lock down with a pressure on supply chain network. Below is the impact on different stakeholders in the economy:

- Impact on Financial Market: Financial/ Stock market has experienced volatility with significant wealth erosion. All the key indices including BSE and NSE have seen downward pattern with stock market crashing on March 12th, 2020. Major indices fell around 10% in a single day. BSE Sensex fell by 2919 points and NSE Nifty fell by 868 points. Further, Indian stock markets fell to a new low level on March 19, 2020, with BSE Sensex fell by 2919 points and NSE Nifty fell by 868 points. Below is the relationship between daily COVID cases and Nifty 50 Index performance.
Impact on Supply Chain: Supply chain got impacted due to shutdown of factories in China and impacted Indian manufacturing industry due to shortage of raw material and final products. Major sectors which got impacted due to supply chain disruption involves electronics, chemicals, automobiles, and pharmaceuticals, among others. Also, Indian exports got impacted due to the slowdown in manufacturing activity in China and other countries including Asia, Europe and United States.

Impact on International Trade: COVID-19 has negatively impacted exports of various commodities including seafood, petrochemicals, gems and jewelry, among others. Fishing sector has experienced a loss of around Rs.1,300 crores due to reduction in exports. States including Jaipur has incurred a loss of approx. Rs. 10,000 crores post cancelling key trade events. India has exported 34% of its petrochemicals to China and have to reduce prices in the line of reduction in demand recently.

Impact on corporates: Leading companies existing in India including Larsen & Toubro, UltraTech Cement, Bharat Forge, Aditya Birla Group, BHEL, Grasim Industries, and Tata Motors has suspended or reduced operations temporarily. Young startups have also been impacted as funding has reduced due to lack of liquidity. Also, FMCG companies have curtailed operations and started focusing on essential commodities.

a) Government’s response to pandemic
   • Sectoral reforms
     o Mar 21st, 2020: Union cabinet provided incentives worth ₹40,995 crore for incentivizing electronic manufacturing10
     o Mar 24th, 2020: Prime Minister announced a new package of approx. ₹15,000 crore for promoting development in the healthcare sector4
     o Jun 02nd2020: Government of India has announced mobile manufacturing incentives of Rs.50,000 crores to promote manufacturing of mobiles through a production-linked incentive schemes and to increase locally made manufacturing in India11
   • Special schemes
     o Atmanirbhar Bharat Abhiyan: Prime Minister of India announced an economic package of ₹20 lakh crore on May 12th, 2020 The package includes announcements by RBI previously on March 26th, 2020, and accounted for ₹8 lakh crore supporting liquidity4
     o Also, on Mar 25th, 2020, Modi government announced food security scheme providing a support of 800 million people across country4
     o On May 20th, 2020, Indian government cleared proposals of economic packages, including collateral free credit for MSMEs and free food grain package
   • Policy changes
     o On Apr 18th, 2020, India made few amendments to the foreign direct investment (FDI) policy to tackle with “opportunistic takeovers/acquisitions” of Indian corporates due to current pandemic
     o On May 22nd, 2020, Reserve Bank of India announced extension of moratorium on loans and reduction in the repo and reverse repo rates among other things
     o On Jun 20th, 2020, Government of India launched Garib Kalyan Rojgar Abhiyaan to deal with the impact of COVID-19 on migrant workers in India. The fund is aimed at supporting rural public schemes with funding of ₹500 bn covering 6 states across 116 cities12.
Global support
- On Apr 02nd 2020, World Bank declared $1 bn emergency financing to India to cater with coronavirus named as “India COVID-19 Emergency Response and Health Systems Preparedness Project”
- On Apr 28th, 2020, Asian Development Bank granted a loan of ₹10,500 crore to fight with the pandemic

b) Impact of COVID-19 on different sectors

i. Energy
Metro cities are the biggest consumer of the energy. Night lights are connected with economic activity. Night life radiance has decreased by 37.2% in New Delhi as compared to Mar 31st, 2019. It was one of the biggest falls in any metro in India caused due to COVID-19. Also, other cities including Bangalore has registered a reduction of 32% and Mumbai registering a reduction of 29% in its energy consumption. At an aggregate level, India’s fuel demand fell by 46% as compared to in April 2019. Consumption of fossil fuels was also at the lowest point since 2007. On the other hand, LPG gas consumption has increased by ~12% in the same period. An International Energy Agency had submitted a report stating India's annual fuel consumption to decline by 5.6% in 2020. Also, diesel demand will decrease by ~6%. In the month of June India’s demand for fuel was at 80–85% of pre-lockdown levels.

ii. Manufacturing
Indian corporates including Larsen and Toubro, Bharat Forge, Grasim Industries, and UltraTech Cement, along with Aditya Birla Group, Tata Motors and Thermax have reduced operations in various manufacturing facilities and factories across the country. Smart phone manufacturers for iPhone (Foxconn and Wistron Corp,) have also reduced majority of operations. Nearly all the automobile companies have halted their production with companies like Hindustan Unilever, ITC and Dabur India have also shut down manufacturing facilities except for factories producing essentials.

iii. E-commerce
Amazon India declared that it would hold sale of non-essential items in India to focus on essential needs. On Mar 25th, 2020, Flipkart suspended most of services offered on its e-commerce platform temporarily and decided to sell and distribute essential products. Big Basket and Grofers also rapidly increased focus on restricted services and have faced disruptions due to the lockdown.

c) Shapes of recovery post pandemic
There are various shapes of recovery. Depending upon the reforms and response of each sector it will have distinct shapes of recovery. Economic recovery has 4 distinct shapesprimarily which is L, U, W, and V-shaped. Below are the few shapes of recovery:

i. L-shape
It is known as a sharp decline in the economy, followed by a very slow recovery. It is often marked as a high unemployment, taking large period to cover up and come back to previous levels.

ii. U-shape
It is also called as “Nike Swoosh” recovery, it is a situation where economy stagnates for some period which can be ranged up to few years. Post a decline, the economy experiences a healthy rise taking it back to the previous peak.

iii. W-shape
This is also called as a “double-dip recession”. This condition allows a healthy chance of recovery, fall come back into a sharp decline and finally allowing the economy to enter full recovery period of up to next 2 years.
iv. V-shape

It is the best-case scenario which experiences a sharp decline in the economy followed by the quick and immediate recovery back to the pre-recession level in less than a year, boosted by strong economic measures and increased consumer spending.

Another important and possible scenario is the Z-shape, which is caused due to pent-up demand or revenge buying. It is rare scenario and is considered more as an optimistic than V-shaped recovery.

II. OBJECTIVE OF STUDY

- To understand the length and depth of crises by sector in India
- To identify the correlation between the COVID-19 versus performance of different sectors
- To understand the shape of recovery and future growth scenarios post pandemic for different sectors
- To track the responses of winner and laggard sectors towards pandemic

III. METHODOLOGY

Stock market works on the principal of absolute knowledge to everyone among the investors. It is believed that prices of any stock will be corrected based on the factors of demand and supply. The below study focusses on understanding how different sectors have reacted to COVID pandemic.

Ho: There is no difference between the impact of COVID-19 on different sectors or all sectors have responded equally to the COVID pandemic.

a) Reponses by key sector to COVID-19

<table>
<thead>
<tr>
<th>Sector</th>
<th>What best performers did?</th>
<th>What worst performers did?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer</td>
<td>• Shift to omni-channel retail</td>
<td>• Over-dependence on single sales channel</td>
</tr>
<tr>
<td></td>
<td>• Partnered with digital supply chains</td>
<td>• Lack of product diversity</td>
</tr>
<tr>
<td></td>
<td>• Reduced rentals and improved space utilization</td>
<td></td>
</tr>
<tr>
<td>Automotive</td>
<td>• Investment in autonomous/Electronic vehicle</td>
<td>• Failure to control infection spread within factories</td>
</tr>
<tr>
<td></td>
<td>• Strict cost discipline of contain operating costs and deferring capex plans</td>
<td>• Launched new products</td>
</tr>
<tr>
<td>Banking &amp; Financial services</td>
<td>• Invested in cyber security, AI, cloud, block chain solutions and focus on contact less payments</td>
<td>• Inability to diversify into more customer friendly products like mobile wallets, digital cards</td>
</tr>
</tbody>
</table>
**Healthcare**
- Adoption of data analytics, rapid clinical trials
- Remote patient monitoring
- Slower shifting to alternative manufacturing options including face masks, sanitizers

**Industrials**
- Strict cost discipline to contain operating costs and deferring capex plans
- Restructured activities including lay-offs and furloughs
- Failure to control infection spread within factories
- Launched new products

**Media & Telecommunications**
- Media companies started reusing archived contents
- Upgrading business model
- Declared cash dividend and share repurchase

**Metals and Mining**
- Invested in regulatory environmental expenses, operational efficiencies, infrastructure improvement
- Regulated businesses faced strong headwinds as they could not benefit from government relaxations
- Reduced capital expenditure

**Technology**
- Outsourcing manufacturing to low-cost geographies/contract manufacturers
- Distributing cash dividend and share repurchase

---

**b) Length and depth of the crises by sector**

Different sectors have varied responses towards COVID depending upon the demand, sector responses and nature of the sectors. Length of the crises is defined as period taken in months by a sector to recover from the crises. While depth of the crises is the minimum point reached by any sector due to crises.

Below is the analysis on Nifty 50 companies to understand the depth of crises and duration took by each sector to recover and come back to the initial level. Sector’s responses varied and proved that depth and length of crises is much dependent on the sector specific conditions.
Banking & Financial Services (-43.2%), Infrastructure (-39.0%), Industrials (-34.7%), Automotive (-32.6%) and Metals and Mining (-31.3%) have been the most impacted sectors, while Healthcare (-8.9%), Media and Telecommunications (-23.3%), Consumer (-25.0%) and Technology (-25.4%) are the least impacted sectors from COVID.

Figure 5.1

<table>
<thead>
<tr>
<th>Sector</th>
<th>Depth of crises</th>
<th>Length of crises</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive</td>
<td>-32.6%</td>
<td>~4-5 months</td>
</tr>
<tr>
<td>Banking &amp; Financial Services</td>
<td>-43.2%</td>
<td>~6-7 months</td>
</tr>
<tr>
<td>Consumer</td>
<td>-25.0%</td>
<td>~2-3 months</td>
</tr>
<tr>
<td>Energy &amp; Power</td>
<td>-27.5%</td>
<td>~6-7 months</td>
</tr>
<tr>
<td>Healthcare</td>
<td>-8.9%</td>
<td>~1-2 months</td>
</tr>
<tr>
<td>Industrials</td>
<td>-34.7%</td>
<td>~5-6 months</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>-39.0%</td>
<td>~4-5 months</td>
</tr>
<tr>
<td>Media &amp; Telecommunications</td>
<td>-23.3%</td>
<td>~7-8 months</td>
</tr>
<tr>
<td>Metals and Mining</td>
<td>-31.3%</td>
<td>~5-6 months</td>
</tr>
<tr>
<td>Technology</td>
<td>-25.4%</td>
<td>~2-3 months</td>
</tr>
</tbody>
</table>


Banking & Financial Services (-43.2%), Infrastructure (-39.0%), Industrials (-34.7%), Automotive (-32.6%) and Metals and Mining (-31.3%) have been the most impacted sectors, while Healthcare (-8.9%), Media and Telecommunications (-23.3%), Consumer (-25.0%) and Technology (-25.4%) are the least impacted sectors from COVID.

c) Shape of recovery by sector

Shape of recovery is a terminology used to describe the type of recession and subsequent recoveries. It is defined by the period in which the economy comes back to its pre-recession levels. Below are the responses by each sector towards pandemic. Different sectors responded differently to the pandemic, while few shown quick V-shaped recovery, others had prolonged U-shaped recovery.

In the below analysis, stock prices of Nifty 50 companies have been considered for the analysis to understand the lowest price drop by each sector and time taken to reach back to pre-covid levels. While recovery is considered as the sustained come back to pre-covid prices.

Sectors including Consumer, Healthcare and Technology have experienced quick V-shaped recovery. While Automotive, Banking and Financial Services and Industrials sector have experienced longer U-shaped recovery. Major fluctuations were seen in the sectors including Infrastructure, Media & Telecommunications and Energy and Power with W-shaped recovery towards pandemic. Shape of recovery is a representative of the demand pattern of the sector, reforms introduced by the corporates in the sector, demand elasticity among others.
Consumer, Healthcare and Technology sector has experienced sharp decline followed by the rapid recovery primarily impacted by:

- Lockouts and restricted movements of goods and people
- Factory and store closures
- Avoidance of elective surgeries and hospital visits
- Shift of life science sector to vaccine development
- Increased dependencies on technology and creating a connected environment

Automotive, Banking & Financial Services and Industrials has experienced sharp decline followed by the pro-longed recovery primarily impacted by:

- Factory shutdowns, limited movement of goods
- Non-availability of raw materials
- Disrupted supply chain
- Uncertainty of COVID-19 impacted credit performance
- Remote working of certain functions of banks created operational difficulty
Infrastructure, Media & Telecommunications, Energy & Power has experienced steep decline followed by the W-shaped recovery and longest time to recover and are primarily impacted by:
- Government guidelines, high liquidity crunch
- Reduced travel due to government guidelines
- Decline in need of office spaces due to remote working
- Decrease in high ticket purchase due to reduced demand in real estate sector

d) Normal Distribution of deviations by sector

Statistical tests are applied to understand the relevance of the data, relationship between COVID cases and stock price movement by sector.

<table>
<thead>
<tr>
<th>Sector</th>
<th>Pearson correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banking &amp; Financial Services</td>
<td>-0.38758</td>
</tr>
<tr>
<td>Metals and Minings</td>
<td>-0.26333</td>
</tr>
<tr>
<td>Industrials</td>
<td>-0.22472</td>
</tr>
<tr>
<td>Automotive</td>
<td>-0.17230</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>-0.13794</td>
</tr>
<tr>
<td>Energy &amp; Power</td>
<td>-0.09173</td>
</tr>
<tr>
<td>Technology</td>
<td>0.19150</td>
</tr>
<tr>
<td>Media &amp; Telecommunications</td>
<td>0.38100</td>
</tr>
<tr>
<td>Consumer</td>
<td>0.45511</td>
</tr>
<tr>
<td>Healthcare</td>
<td>0.90033</td>
</tr>
</tbody>
</table>

Source: https://www.nseindia.com/get-quotes/equity?Symbol=SBIN15

Figure 5.2
The values for Pearson Correlation ranges between -1.0 and 1.0. A correlation of -1.0 reflects perfect negative correlation, while a correlation of 1.0 shows a perfect positive correlation. Zero correlation means no linear relationship between movement of 2 variables.

Above analysis shows that, sectors with higher depth and length of crises have higher negative correlation, while sectors including Consumer, Technology and Healthcare have positive correlation and states no impact due to COVID pandemic.

### ii. P-value test

P-value is stated as the probability that null hypothesis is true. In case under examination, it shows probability that the correlation between x and y in the sample data happened due to chance.

A p-value of 0.05 means that there is only 5% chance that results from your sample occurred due to chance. A p-value of 0.01 depicts only 1% chance of error. So lower p-values are good.

\( H_0 \): There is no relation between COVID cases and performance of stock prices of Nifty 50 companies.

<table>
<thead>
<tr>
<th>Sector</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive</td>
<td>0.01261</td>
</tr>
<tr>
<td>Banking &amp; Financial Services</td>
<td>0.00000</td>
</tr>
<tr>
<td>Consumer</td>
<td>0.00000</td>
</tr>
<tr>
<td>Energy &amp; Power</td>
<td>0.18650</td>
</tr>
<tr>
<td>Healthcare</td>
<td>0.00000</td>
</tr>
<tr>
<td>Industrials</td>
<td>0.00107</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>0.04641</td>
</tr>
<tr>
<td>Media &amp; Telecommunications</td>
<td>0.00000</td>
</tr>
<tr>
<td>Metals and Minings</td>
<td>0.00012</td>
</tr>
<tr>
<td>Technology</td>
<td>0.00548</td>
</tr>
</tbody>
</table>


Figure 5.3

As the P-value for all the sectors is less than 1% smaller than the significance level (\( \alpha = 0.01 \)), we REJECT the null hypothesis in favor of the alternative. Hence, we can conclude by stating that the sample size is relevant and there is a correlation in the sample.

iii. Normal Distribution curve

Further, normal distribution curve has been plotted for each sector based on Nifty 50 companies to understand how close these sectors stayed with the base price (rebased to 100 for pre-covid level). The analysis is aimed to understand the volatility of each sector and variability from the base price 100 (stock prices are rebased to 100 for pre-covid level).

iv. Automotive

[Standard Deviation: 13.8
Mean: 102
-40% +30%]

Automotive sector has experienced performance below the par value of 100 in 40% of the intervals, while it was up in the 30% of the intervals during 2020. Mean value of share price performance for shares in Automotive sector was 102 (at premium of 2 from pre-COVID levels).
v. Banking & Financial Services

Banking & Financial Services sector has experienced performance below the par value of 100 in 50% of the intervals, while it was up in the 10% of the intervals during 2020. Mean value of share price performance for shares in Banking & Financial Services sector was 80 (at discount of 20 from pre-COVID levels).

vi. Consumer

Consumer sector has experienced performance below the par value of 100 in 30% of the intervals, while it was up in the 30% of the intervals during 2020. Mean value of share price performance for shares in Consumer sector was 108 (at premium of 8 from pre-COVID levels).

vii. Energy & Power

Energy and Power sector has experienced performance below the par value of 100 in 30% of the intervals, while it was up in the 10% of the intervals during 2020. Mean value of share price performance for shares in Energy and Power sector was 96 (at discount of 4 from pre-COVID levels).

viii. Healthcare

Energy and Power sector has experienced performance below the par value of 100 in 30% of the intervals, while it was up in the 10% of the intervals during 2020. Mean value of share price performance for shares in Energy and Power sector was 96 (at discount of 4 from pre-COVID levels).
Healthcare sector has experienced performance below the par value of 100 in 10% of the intervals, while it was up in the 80% of the intervals during 2020. Mean value of share price performance for shares in healthcare sector was 145 (at premium of 45 from pre-COVID levels).

Industrials

Industrials sector has experienced performance below the par value of 100 in 40% of the intervals, while it was up in the 5% of the intervals during 2020. Mean value of share price performance for shares in Industrials sector was 91 (at discount of 9 from pre-COVID levels).

Infrastructure

Infrastructure sector has experienced performance below the par value of 100 in 40% of the intervals, while it was up in the 20% of the intervals during 2020. Mean value of share price performance for shares in Infrastructure sector was 101 (at premium of 1 from pre-COVID levels).

Media & telecommunications

Media & Telecommunications sector has experienced performance below the par value of 100 in 25% of the intervals, while it was up in the 20% of the intervals during 2020. Mean value of share price performance for shares in Media & Telecommunications sector was 98 (at discount of 2 from pre-COVID levels).
xii. *Metals and Mining*

Metals and Mining sector has experienced performance below the par value of 100 in 35% of the intervals, while it was up in the 25% of the intervals during 2020. Mean value of share price performance for shares in Metals and Mining sector was 98 (at discount of 2 from pre-COVID levels).

xiii. *Technology*

Technology sector has experienced performance below the par value of 100 in 30% of the intervals, while it was up in the 60% of the intervals during 2020. Mean value of share price performance for shares in Technology sector was 114 (at premium of 14 from pre-COVID levels).

e) Normal Distribution of deviations by sector

i. *Automotive*

Key responses by Automotive sector supporting the future growth includes:

- Companies focused on better price realization to boost revenue
- Rationalized the product portfolio with a focus on essential, higher margin syndicated businesses
- Companies had to reimagine supply chains and develop new and local supplier relations, negotiate terms and prices and ensure supply availability
ii. **Technology**

Key responses by Technology sector supporting the future growth includes:

- Reduced marketing spends by deferring or suspending sponsorships, campaigns and customer events, reduced non-essential expenditure

iii. **Metals**

Key responses by Metals sector supporting the future growth includes:

- Budget cuts, Capex reduction, salary cuts and reducing overheads costs
- Companies suspended stock repurchase programs and dividends
iv. **Media & Telecommunications**

Key responses by Media & Telecommunications sector supporting the future growth includes:
- Companies borrowed spectrums to meet capacity demand in spike
- Deferred launch of new products
- Reduced marketing spends by deferring sponsorships, campaigns and customer events, reduced non-essential spending

v. **Banking & Financial Services:**

Key responses by Banking & Financial Services sector supporting the future growth includes:
- Investments in process automation and technology and improved cyber security
- Banks implemented safety protocol at branches, offered loan deferrals
**vi. Consumer**

Key responses by Consumer sector supporting the future growth includes:
- Companies focused on developing e-commerce network to each-out its consumers
- Invested in process automation and improving supply chain
- Also, companies took initiatives like overhead expenses reduction, headcount reduction and salary cuts

**vii. Energy & Power**

Key responses by Energy & Power sector supporting the future growth includes:
- Companies engaged in improving utilization of the product lines and plants
- Focused on budget cuts, headcount reduction and salary cuts
viii. **Healthcare**

Key responses by healthcare sector supporting the future growth includes:
- Companies engaged in improving utilization of the product lines and plants
- Focused on budget cuts, headcount reduction and salary cuts

ix. **Infrastructure**

Key responses by Infrastructure sector supporting the future growth includes:
- Issued furloughs to the employees, reduced base salary of top executives, freeze new hirings
- Focused on budget cuts, headcount reduction and salary cuts
x. **Industrials**

Key responses by Industrials sector supporting the future growth includes:

- Companies focused on better price realization to boost revenue
- Rationalize the product portfolio with a focus on essential, higher margin syndicated businesses
- Companies had to reimagine supply chains and develop new and local supplier relations, negotiate terms and prices and ensure supply availability

**VI. Conclusion**

Pandemic has caused impact in the economy across different segments. Winners and laggards have been defined based on their respective responses towards the pandemic. While few sectors have responded by cost cuts, investment in cost reduction technologies on the other hand laggards have not been able to keep the track on their cost structure and curtail capital expenditure.

Length and depth of crises by sector: Different sectors have reacted differently to the pandemic. Banking & Financial Services (-43.2%), Infrastructure (-39.0%), Industrials (-34.7%), Automotive (-32.6%) and Metals and Mining (-31.3%) have been the most impacted sectors, while Healthcare (-8.9%), Media and Telecommunications (-23.3%), Consumer (-25.0%) and Technology (-25.4%) are the least impacted sectors from COVID.

Correlation between the COVID-19 versus performance of different sectors: Correlation between the sectors vary with the nature of the sector, initiatives taken by each sector and responses by each company in the sector. While sectors like Banking and Financial services, metals and Mining, Industrials and Automotive have high degree of negative correlation with the COVID-19 pandemic. Similarly, sector like healthcare, consumer, technology are least related with disruption caused by the pandemic.

Shape of recovery and future growth scenarios post pandemic for different sectors: Shape and depth of the crises also varies with the sector and is not uniform throughout the economy with recovery rate varying from 2-3 months in case of technology to 7-8 months in case of Energy & Power and Media & Telecommunications.

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COVID-19 and Food Supply Chain Disruptions in Bangladesh: Impacts and Strategies

By Fowzia Tasnim, Tamanna Islam Mim & Doulotuzzaman Xames

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GJMBR-A Classification: JEL Code: H83
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1. Introduction

The COVID-19 has exposed the vulnerabilities of the global supply chain, upending decades-old economic structures developed by corporations and governments all over the world. The spread of the Coronavirus has resulted in massive costs for enterprises all around the world. According to a recent research, the world’s top 1,000 corporations or their suppliers possess more than 12,000 facilities in China, Italy, and South Korea’s initial COVID-19 quarantine areas. (Harvard Business Review, 2020). Following the COVID-19 crisis, it is reasonable to expect businesses to demand that suppliers enhance social support and health-care services for their employees, so making compliance necessary. The COVID-19 epidemic has devastated global trade at an unparalleled rate and magnitude. Bangladesh is the world’s most densely populated country, but, to our dismay, the country’s healthcare facilities are insufficient to support its 160 million-plus inhabitants. Many people struggled to acclimatize to the new reality and grasp what was authorized during the start of the pandemic, creating a pervasive sense of bewilderment. Restaurants, motels, and companies that sold non-essential commodities were all forced to close.

The public transportation system was shut down. Global trade, business, and education have all been disrupted as a result of the unprecedented COVID-19 pandemic. Bangladesh is equally affected by this epidemic.

Despite the fact that the coronavirus outbreak in Bangladesh has halted nearly all economic activity and disrupted the supply chain, the agriculture sector has continued to play an important role in protecting people’s lives and livelihoods. According to the Labor Force Survey 2015-16, agriculture contributes 14.74 percent to the country’s GDP and employs about 41% of the workforce. Economists have advised the government to keep the supply chain in place and overcome bilateral issues in order to get access to global markets. Business people were encouraged to diversify their agro-processing goods. Agriculture was assigned the second greatest priority in the proposed budget, receiving Tk 22,489 crore, an increase of Tk 1,005 crore over last year’s allotment. According to the latest figures from the Export Promotion Bureau (EPB), the country’s export performance for July-May 2019-20 was $780.16 million, down from $854.46 million the previous fiscal year. Vegetables, tea, flowers and greenery, fruits, spices, dry food, and other products are among the items on the list. The port’s import container traffic reached 49,468 TEUs on May 23rd, despite its storage capacity of 49,019 TEUs (DATABD.CO, 2020).

The economic impacts of the COVID-19 outbreak are difficult to tackle because the entire global supply chain has been disrupted due to worldwide transportation disruptions. According to a survey done by the Institute for Supply Management in March 2020, coronavirus-related restrictions disrupted supply chains in some way for 75% of enterprises (DATABD.CO, 2020). Globally, the COVID-19 pandemic has halted human activity, putting countries in a lull and possibly leading to economic depression. Bangladesh, despite having a booming economy, is suffering from severe economic shocks. It is also dealing with an imbalance in the food supply in all of its routes, in addition to the economic blow (Zabir et al., 2021). The COVID-19 pandemic has driven the country to implement long-term and frequent lockdowns, suspended transportation, and eventually brought the whole food supply chain to a halt. In this research paper, we have...
summarized the likely implications of those disruptions on the food supply chain.

We provide several potential strategies to reduce such consequences based on the given circumstances.

II. COVID-19 Scenario in Bangladesh

Coronavirus disease 2019 (COVID-19) is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). In March 2020, it was confirmed that the virus had spread to Bangladesh. The country's epidemiology institute, IEDCR, reported the first three cases on March 7, 2020 (Anwar et al., 2020). To protect the population, the government imposed a nationwide "lockdown" from March 23 to May 30 and took the required precautions to raise awareness about the illness. Complete lockdown has been imposed in areas with the highest number of sick patients. Local law enforcement and administrative officials kept a close eye on people who were quarantined at home. Public transportation, intercity buses, commuter trains, inter-district trains, water launches, and ferries were all shut down during the shutdown. The only mode of transit available was for goods.

Bangladesh, being a highly populated country, confronts tremendous hurdles in fighting COVID-19. On August 10th, the last remaining restrictions on public movement were repealed. Outdoor movement was prohibited from 10 p.m. to 5 a.m. (unless in emergencies), all shops, bazaars, and malls were closed after 8 p.m., and meetings, rallies, and large gatherings were prohibited. The COVID-19 epidemic has had a severe impact on family and individual wages in Bangladesh, with roughly 13% of the population losing their jobs; lower and middle-income classes have seen a significant loss in income over the last few months.

The pandemic has had a significant impact on practically every area of the economy, including a 16.93 percent drop in exports, a 17 percent drop in imports, and a 66 percent drop in average revenue for all small and medium enterprises (SMEs) in 2020 compared to 2019. Only remittance inflows have increased by 11% this year, which is unusual. Bangladesh, as a lower-middle-income country, faces significant challenges in controlling the virus's spread. The country must expand its testing and healthcare facilities while maintaining the lockdown at all costs with more stringent upkeep. It must maintain a steady supply of personal protective equipment (PPE) for healthcare professionals.

III. Effect of COVID-19 on Food Supply Chain in Bangladesh

Like many other countries, Bangladesh is also having this crisis and experiencing its dreadful impacts. Besides affecting the public health sector, coronavirus has also covered the country's economy, food security, food supply, trading activity, transportation system, and many more. Among these, the lockdown situation has worsened the food supply chain in Bangladesh as well as other developing countries in the world.

a) Local Food Supply Chain Disruption

Transport routes are being blocked, fresh food supply lines are being disrupted, and food loss and waste are increasing across the country as a result of the lockdown. Then, due to restrictions on free movement, the supply chain broke down, putting the situation out of control. Despite the fact that Bangladesh has established an emergency transportation system for agriculture, a significant amount of perishable food continues to go to waste every day due to a lack of adequate distribution and monitoring mechanisms. As a result, the country's total food supply system has deteriorated.

The shutdown had an impact across the business, with limitations on mobility preventing fishermen and fish producers from getting their products to market. Customers are reportedly abandoning retail markets for fear of infection and locking steps, resulting in a dramatic drop in fish prices. Farmers were unable to receive necessary services during the nationwide lockdown, which had an impact on the entire industry. The present food security model suggests a high amount of policy risk, as it focuses on agricultural commodity production as well as the manufacturing, distribution, and retailing functions of food supply.

Consumer demand for food has reduced as a result of the return of manufacturing workers to their hometowns, changes in food shopping patterns, and fear of infection. Going to the market necessitates preparations such as donning masks or gloves, as well as paying closer attention to the surroundings, in order to preserve social distance. When at all feasible, unnecessary excursions are avoided. People who used to go to the market on a daily basis now only go once a week. Reduced operation hours, fears of infection, and efforts to combat the spread of COVID-19 have all contributed to a shift in purchasing habits, as the length and frequency of market visits has decreased.

The number of customers at marketplaces is thought to have decreased by more than a third. Due to municipal constraints, market hours now vary greatly across the country and have a narrower range of opening times than usual. Although there have been no major food shortages, supply chain interruptions have altered the regular food landscape. The variety of fresh products such as fish, fruits, and vegetables available in markets in Dhaka and Mymen singh has drastically diminished, and items appear less fresh and enticing than usual. This decreased variety and diversity could have contributed to lower fruit and vegetable sales.

Certain food commodities are in low supply due to transportation interruptions and labor difficulties.
When authorities observed trucks returning empty after making deliveries, problems were said to ensue. Fees for movement have been imposed on some trucks, discouraging transit in the food industry. In absolute terms, poor people ate less than before, while middle-class consumers may be limiting the variety of foods they consume. Policy interventions intended at preventing the spread of COVID-19 have an impact on agricultural productivity and trade (e.g., tightening cargo vessel regulations). Furthermore, output was impeded by restrictions on free movement of persons and a seasonal labor scarcity. These impediments eventually have an impact on market values. As a kind of assistance, the Bangladesh Agricultural Development Corporation acquired rice from farmers at high prices.

Farmers of vegetables, fish, or poultry are not included in the effort. Approximately 110-220 thousand litres of milk worth BDT 570-600 million (USD 6.71-7.07 million) was thrown away everyday during the shutdowns, according to the Bangladesh Dairy Farmers' Association (CGIAR, 2020). Every day, 17 million litres of liquid milk are used. The country's 70,000 local farmers supply 12 to 14 million litres, or around 70% of the demand. Cold storage capacity might be constructed to help rural farmers survive the current situation. Cream separator machines might be deployed to produce ghee or cheese, which can be stored more easily than liquid milk, to reduce wastage.

Exporters have previously assessed supply chain capability in light of international market needs. The supply chain was assessed by local traders based on their current capabilities and practices. Because of unacceptable food safety and hygiene standards, inadequate storage facilities, ineffective transportation systems, higher supply chain operational costs, and insufficient quantity of supply, the local vegetable supply chain cannot meet the requirements of international trade, according to the comparison (Hasan et al., 2018). As a result, the COVID-19 pandemic necessitated the adoption of emergency-preparedness procedures and impacted food supply chain contractual transactions. Simultaneously, it shifted the supply-demand balance, putting small producers and operators in a bind. The COVID-19 situation will, without a doubt, have long-term consequences for supply chains. The government of Bangladesh has set aside BDT 50 billion (USD 588.83 million) from the total financial incentive fund of BDT 727.5 billion to protect Bangladesh's agriculture sector from supply chain interruptions (DATABD.CO, 2020).

b) Import and Export Food Supply Chain Disruption

The majority of foods are imported into Bangladesh through the Chattogram seaport.

However, the Chattogram port, which handles around 80% of the country's external trade, has come to a halt since the number of containers of imported products has exceeded the port's storage capacity due to tardy delivery of commodities during the nearly one-month-long shutdown (The Business Standard, 2020). Leading consumer goods businesses' supply are stalled at ports, factories, and warehouses. So far, they've been relying on raw materials in stock, but if the overall supply chain system - from planning to sourcing, manufacturing, and delivery – does not improve, there will be problems in the future. During Ramadan, demand for some commodities such as sugar, lentils, edible oil, and wheat increased by 20 to 30 percent. As a result, trucks filled with these items should be busy transporting them around the country. Maintaining the supply chain was just as critical as citizens' health safety or financial packages for enterprises, as there may be a severe shortage of both at the consumer level.

According to reports, processed food exports dropped 11% in the first seven months of this fiscal year compared to the same period last year (The Financial Express, 2020). According to a source at the port city customs, the products were less valuable in price. The drop in exports is alarming at a time when this industry was thought to be taking off, given the jump in exports last year. The shortfall, as well as the period's export target, is unlikely to be made up in the remaining months of the fiscal year. It's worth noting that processed food export receipts reached an all-time high of $ 700 million in 2018-19. Although this is a small quantity, the fact that processed food exports are subject to a strict compliance regime illustrates the difficult problems our exporters face in gaining access to highly regulated, often protected, international markets (The Financial Express, 2020).

In terms of annual revenue, the agro-processing industry in the country is worth $ 3.2 billion. According to the Bangladesh Agro-Processors’ Association BAPA, around 250 agro-processors accounted for 81 percent of overall agricultural export revenues in FY 2018-19. Bangladesh's shrimp exports make for more than 70% of the country's agricultural exports. Shrimp exports fell 10% to Tk 2,554 crore in the first 11 months of the 2019-20 fiscal year, according to the Export Promotion Bureau. In the last two months, shipments have decreased by more than 47%. The Bangladesh Frozen Foods Exporters Association (BFFEA) claims that orders for shrimp exports worth more than Tk 600 crore have been canceled in the previous 20 days.

China's WTO-mandated trade preference for Bangladesh as a least developed nation (LDC) now covers 8,256 HS Codes, or 97 percent of Bangladesh's product categories. China has asked Bangladesh to take appropriate safety steps to ensure that food goods shipped from Bangladesh to China are free of coronavirus contamination. China also expressed the desire that if there is a risk of pneumonia in foods sold to Bangladesh, Bangladeshi authorities will voluntarily prohibit export of related firms. More than 5161
c) Last Mile Delivery Supply Chain Disruption

To stop the spread of the new coronavirus, governments around the world have imposed lockdowns, making it difficult for people to get their daily necessities and groceries from stores. Furthermore, the nationwide lockdown forced the closure of manufacturing facilities, significantly limiting the supply of everyday necessities. Moreover, the home quarantine scenario has strained the supply chain, putting more demand on service providers than they can handle. Staples and groceries, pharmaceuticals, and medical equipment, among other things, are among the commodities under increased demand. Fast delivery is no more a luxury, but rather a requirement as consumers increasingly turn to e-Commerce to meet their shopping needs. Companies are encountering significant last-mile delivery issues as e-Commerce demand skyrockets during the pandemic. The pandemic of the coronavirus and consequent stay-at-home orders have had a significant impact on delivery services. The difficulty is exacerbated by the fact that the final stage of distribution has experienced rapid expansion. The coronavirus pandemic and the rise of e-Commerce have exacerbated the costs and inefficiencies of the last-mile problem, resulting in a considerable increase in the number of parcels delivered each day.

Supply chains and last-mile deliveries have been severely stressed as a result of the COVID-19 outbreak. It has also compelled many merchants and consumer firms to offer home delivery, even if they didn't previously. Customers expect more service and convenience as e-commerce grows, and disruptive technologies ranging from delivery vehicle electrification to droids and drones are shaking up entire delivery systems. For several years, last-mile delivery has experienced rapid growth, providing challenges for organizations while also propelling constant innovation and advancement. Then the epidemic struck. The gradual growth gave way to an unexpected, chaotic surge in demand. Food delivery, whether fresh products from grocers or prepared meals from restaurants, provides useful instances for understanding the pandemic's impact on the last mile delivery system, and its future ramifications. Businesses now require a well-thought-out strategy that considers how much has changed and how much of it will be permanent in order to succeed. The early pandemic response, which saw businesses scurrying for immediate fixes to satisfy soaring demand, is mostly over, and the economy is reopening. Some features of the customer priorities shift from convenience to safety, and from wants to basic necessities, may endure. Subtle shifts in client incentives, loyalty, and habits must also be considered.

The current COVID-19 situation has posed major challenges to logistic service providers' operations. And the system is already buckling under the strain of rising demand, an insufficient supply of staff and groceries, and a lack of delivery personnel. COVID-19 will hasten digitization and electrification, promote logistics and retail market consolidation, strengthen traffic control, and promote innovative hybrid online/offline retail business models. COVID-19 is also expected to work as a spur for contactless, unattended, and self-driving delivery technologies, putting additional strain on cities (Automotive World, 2020).

IV. Strategies to Mitigate the Effect of COVID-19 on Food Supply Chain

The COVID-19 epidemic has put the globe into an unprecedented crisis, as it battles a pathogen that may be here to stay for a long time. Bangladesh is also impacted, thus now is the time to find appropriate answers. We can also reduce our loss in this manner. Businesses are under a great deal of pressure to improve delivery routes and processes.

Businesses are scrambling to fulfill purchases as swiftly as possible during the coronavirus outbreak, as more people shop online. Customer expectations remain high, despite COVID-19 impacting supply networks and economies around the world, making it harder for firms to match customers' speedy delivery expectations. In an economic slump, most customers do not expect companies to abandon fast delivery. Customers still want transparency and visibility in the delivery process, as well as faster delivery times. In an economic downturn, customers do not expect enterprises to sacrifice visibility/transparency into the delivery process or predicted delivery timelines. Getting the order to the consumer swiftly and efficiently is an important part of improving the overall customer experience. Customers want speedy delivery with visibility into where their delivery is and when it will arrive, regardless of what is going on in the globe.

Consumer products are typically heavier, bulkier, and more expensive to ship than clothes, which accounts for almost 30% of e-commerce shipments. While long-haul capacity exists to carry the goods over large distances, the main constraint is at the local level during final-mile delivery, which is labor demanding, has cube constraints for neighborhood delivery trucks, and may be limited by regulatory constraints, restricting time on the road. During peak demand, retailers might employ last-mile methods such as:

- Convert as much of your buying to buy online/pick up in store (BOPIS), which eliminates the need for carriers and allows you to use stores as forward stocking locations.
Consolidate shipments exiting the warehouse in any way possible.
Increase the use of packaging packages or cubes.
Ship to alternate retail pickup places, such as lockers or retail access points, to increase delivery density and lessen reliance on shipping to houses.

Retailers should also think about how their organization compares to others in terms of utilizing flexible delivery ways to reach their customers. Can you use physical stores as pickup hubs for customers that want simple pickup experiences with little or no face-to-face interaction? Are you getting the most out of your transportation expenses by consolidating and packaging items efficiently? How would your company respond if it suddenly needed to deliver more items to homes while carriers’ last-mile resources were limited? Can you re-route supplies to a different place where customers will feel safe?

Modern challenges will not be solved by outdated technology. In the present digital era, manual procedures and old systems have a significant impact on profitability and productivity. Companies cannot effectively manage deliveries, adjust to unanticipated requests, or grow in the increasingly competitive delivery industry unless they have the appropriate IT tools in place.

The latest retail tech buzzword is ‘contactless delivery’. Shoppers can now choose contactless delivery from many app-based direct-from-store or fresh food delivery services. Amazon’s recent technical expenditures and improvements are foresightful, as brick-and-mortar retailers are now following suit. Security systems such as Ring, home automation, front-door and in-car delivery technology, and unattended safe locker delivery in strategic places are all examples. When last-mile delivery employees are unavailable, these technologies improve security, flexibility for customers, and durability.

Scalability is hampered by unprecedented demand. In the best of conditions, scaling a supply chain effectively is tough, but in the constricted timeframes faced by enterprises during the COVID-19 crisis, that problem took on a whole new meaning. According to a Reuters supply chain report, most shoppers said the largest bottleneck forming as a result of COVID-19 was a lack of understanding on client demand. Companies were unable to create efficient delivery schedules due to their incapacity to design delivery routes taking into account many elements such as vehicle capacity, urgency, and special item requirements.

Customer demand has become more volatile as a result of the epidemic, making forecasting demand patterns much more challenging. Furthermore, the coronavirus outbreak impacted personnel levels as well as merchants’ capacity to process orders at regular efficiency levels, making it impossible to keep up with rising demand. The truth is that legacy technology and traditional supply chain management processes are no longer adequate to meet changing consumer needs and the rise of e-Commerce. These difficulties underscore the need for innovative technology and solutions to assist assure company continuity, improve operational efficiency, and mitigate the effects of unforeseen events. COVID-19’s extensive impact has been a driving force for innovation in many ways, and shippers who had not prioritized digital transformation before to the epidemic are now moving swiftly.

Hand washing should always be a priority. In addition, when handling food, shops must adhere to strict sanitary standards. When cutting, slicing, or packaging foods, food preparation employees must wear masks and gloves and replace them periodically. Consumers must also play a role in preventing contamination by not handling foods other than those they intend to buy in stores. As a result of the COVID-19 pandemic, human resource management has become more complex. Changes in working circumstances, new workplace policies, and measures to decrease human contact are all examples of these problems. Prior to entering the site, workers, visitors, suppliers, and contractors should have their COVID-19 symptoms monitored. Second, facilities could investigate working hours reductions and employee rotation. To avoid overcrowding, each shift’s total number of workers should be divided into three or four groups, with break time adjusted accordingly. Finally, warehouses and processing plants should be redesigned so that employees can leverage social distances.

In the COVID-19 era, decentralization of food manufacturing might also be utilised to minimize the problems and hazards associated with the centralization paradigm. Low-scale facilities close to consumers save money on storage and transportation while also reducing environmental effect. Because bringing production facilities closer to consumers shortens the supply chain and reduces emissions and energy consumption during transit and storage, it makes sense to do so.

Industry should also determine which transportation routes are obstructed (possible alternatives should be considered) and how many employees are unable to work as a result of the limitations. In the event of cross-border limitations, the local workforce should be trained and activated. Closeness to the manufacturer should be considered while choosing and planning collection centers.

An internet-enabled web-based supply chain management system allows information to flow between suppliers, facilities, collection centers, and retailers. This solution allows the company and the client to collaborate more quickly and easily. E-commerce allows businesses to cut expenses while increasing demand.
Given the horizontal and vertical coordination processes with farmer associations that establish contractual agriculture arrangements, food banks can play a significant role. It would be a way to assist farmers in finding new markets by selling their unsold products to food banks, as well as to connect farmers with vulnerable individuals during the COVID-19 outbreak. Warehouse receipt systems can be implemented in countries, allowing small-scale producers to gain better access to financial credit and acquire the highest price for their products.

V. Conclusion

The pandemic of COVID-19 has a lot of consequences for Bangladesh’s food supply chains. This pandemic wreaked havoc on the economy and labor market, resulting in severe unemployment and underemployment among informal workers. Lockdowns and limitations on mobility are disrupting agri-food supply networks and markets. The uncertainty around COVID-19, as well as a lack of food, exacerbated the problem. It is clear that the COVID-19 situation will have long-term consequences for supply networks. Food supply is being hampered in various sectors due to transit restrictions and safety concerns.

Supply chain disruption is causing a lot of problems for farmers, workers, and industry. The economic situation has deteriorated. To get out of this situation, strategies should be implemented to keep the food supply chain running by reducing supply chain disruptions and the consequences of lockdowns and other limitations. To offset the negative effects on the food supply chain in a developing country like Bangladesh, initiatives such as contactless delivery, e-commerce adoption, robust demand forecasting, decentralization of food manufacture and production, and so on can be implemented. To properly reduce the COVID-19 implications on the food supply chain, the government and regulators must establish a safety strategy that addresses all of these challenges.

Disclosure Statement

The authors declare that they have no potential conflict of interest or financial conflict to disclose.

REFERENCES Références Referencias


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1. **Choosing the topic:** In most cases, the topic is selected by the interests of the author, but it can also be suggested by the guides. You can have several topics, and then judge which you are most comfortable with. This may be done by asking several questions of yourself, like "Will I be able to carry out a search in this area? Will I find all necessary resources to accomplish the search? Will I be able to find all information in this field area?" If the answer to this type of question is "yes," then you ought to choose that topic. In most cases, you may have to conduct surveys and visit several places. Also, you might have to do a lot of work to find all the rises and falls of the various data on that subject. Sometimes, detailed information plays a vital role, instead of short information. Evaluators are human: The first thing to remember is that evaluators are also human beings. They are not only meant for rejecting a paper. They are here to evaluate your paper. So present your best aspect.

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3. **Ask your guides:** If you are having any difficulty with your research, then do not hesitate to share your difficulty with your guide (if you have one). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work, then ask your supervisor to help you with an alternative. He or she might also provide you with a list of essential readings.

4. **Use of computer is recommended:** As you are doing research in the field of management and business then this point is quite obvious. Use right software: Always use good quality software packages. If you are not capable of judging good software, then you can lose the quality of your paper unknowingly. There are various programs available to help you which you can get through the internet.

5. **Use the internet for help:** An excellent start for your paper is using Google. It is a wondrous search engine, where you can have your doubts resolved. You may also read some answers for the frequent question of how to write your research paper or find a model research paper. You can download books from the internet. If you have all the required books, place importance on reading, selecting, and analyzing the specified information. Then sketch out your research paper. Use big pictures: You may use encyclopedias like Wikipedia to get pictures with the best resolution. At Global Journals, you should strictly follow here.
6. **Bookmarks are useful:** When you read any book or magazine, you generally use bookmarks, right? It is a good habit which helps to not lose your continuity. You should always use bookmarks while searching on the internet also, which will make your search easier.

7. **Revise what you wrote:** When you write anything, always read it, summarize it, and then finalize it.

8. **Make every effort:** Make every effort to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in the introduction—what is the need for a particular research paper. Polish your work with good writing skills and always give an evaluator what he wants. Make backups: When you are going to do any important thing like making a research paper, you should always have backup copies of it either on your computer or on paper. This protects you from losing any portion of your important data.

9. **Produce good diagrams of your own:** Always try to include good charts or diagrams in your paper to improve quality. Using several unnecessary diagrams will degrade the quality of your paper by creating a hodgepodge. So always try to include diagrams which were made by you to improve the readability of your paper. Use of direct quotes: When you do research relevant to literature, history, or current affairs, then use of quotes becomes essential, but if the study is relevant to science, use of quotes is not preferable.

10. **Use proper verb tense:** Use proper verb tenses in your paper. Use past tense to present those events that have happened. Use present tense to indicate events that are going on. Use future tense to indicate events that will happen in the future. Use of wrong tenses will confuse the evaluator. Avoid sentences that are incomplete.

11. **Pick a good study spot:** Always try to pick a spot for your research which is quiet. Not every spot is good for studying.

12. **Know what you know:** Always try to know what you know by making objectives, otherwise you will be confused and unable to achieve your target.

13. **Use good grammar:** Always use good grammar and words that will have a positive impact on the evaluator; use of good vocabulary does not mean using tough words which the evaluator has to find in a dictionary. Do not fragment sentences. Eliminate one-word sentences. Do not ever use a big word when a smaller one would suffice. Verbs have to be in agreement with their subjects. In a research paper, do not start sentences with conjunctions or finish them with prepositions. When writing formally, it is advisable to never split an infinitive because someone will (wrongly) complain. Avoid clichés like a disease. Always shun irritating alliteration. Use language which is simple and straightforward. Put together a neat summary.

14. **Arrangement of information:** Each section of the main body should start with an opening sentence, and there should be a changeover at the end of the section. Give only valid and powerful arguments for your topic. You may also maintain your arguments with records.

15. **Never start at the last minute:** Always allow enough time for research work. Leaving everything to the last minute will degrade your paper and spoil your work.

16. **Multitasking in research is not good:** Doing several things at the same time is a bad habit in the case of research activity. Research is an area where everything has a particular time slot. Divide your research work into parts, and do a particular part in a particular time slot.

17. **Never copy others' work:** Never copy others' work and give it your name because if the evaluator has seen it anywhere, you will be in trouble. Take proper rest and food: No matter how many hours you spend on your research activity, if you are not taking care of your health, then all your efforts will have been in vain. For quality research, take proper rest and food.

18. **Go to seminars:** Attend seminars if the topic is relevant to your research area. Utilize all your resources.

19. **Refresh your mind after intervals:** Try to give your mind a rest by listening to soft music or sleeping in intervals. This will also improve your memory. Acquire colleagues: Always try to acquire colleagues. No matter how sharp you are, if you acquire colleagues, they can give you ideas which will be helpful to your research.

20. **Think technically:** Always think technically. If anything happens, search for its reasons, benefits, and demerits. Think and then print: When you go to print your paper, check that tables are not split, headings are not detached from their descriptions, and page sequence is maintained.
21. **Adding unnecessary information:** Do not add unnecessary information like "I have used MS Excel to draw graphs." Irrelevant and inappropriate material is superfluous. Foreign terminology and phrases are not apropos. One should never take a broad view. Analogy is like feathers on a snake. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Never oversimplify: When adding material to your research paper, never go for oversimplification; this will definitely irritate the evaluator. Be specific. Never use rhythmic redundancies. Contractions shouldn't be used in a research paper. Comparisons are as terrible as clichés. Give up ampersands, abbreviations, and so on. Remove commas that are not necessary. Parenthetical words should be between brackets or commas. Understatement is always the best way to put forward earth-shaking thoughts. Give a detailed literary review.

22. **Report concluded results:** Use concluded results. From raw data, filter the results, and then conclude your studies based on measurements and observations taken. An appropriate number of decimal places should be used. Parenthetical remarks are prohibited here. Proofread carefully at the final stage. At the end, give an outline to your arguments. Spot perspectives of further study of the subject. Justify your conclusion at the bottom sufficiently, which will probably include examples.

23. **Upon conclusion:** Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium though which your research is going to be in print for the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects of your research.

**Informal Guidelines of Research Paper Writing**

**Key points to remember:**

- Submit all work in its final form.
- Write your paper in the form which is presented in the guidelines using the template.
- Please note the criteria peer reviewers will use for grading the final paper.

**Final points:**

One purpose of organizing a research paper is to let people interpret your efforts selectively. The journal requires the following sections, submitted in the order listed, with each section starting on a new page:

*The introduction:* This will be compiled from reference matter and reflect the design processes or outline of basis that directed you to make a study. As you carry out the process of study, the method and process section will be constructed like that. The results segment will show related statistics in nearly sequential order and direct reviewers to similar intellectual paths throughout the data that you gathered to carry out your study.

*The discussion section:* This will provide understanding of the data and projections as to the implications of the results. The use of good quality references throughout the paper will give the effort trustworthiness by representing an alertness to prior workings.

Writing a research paper is not an easy job, no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record-keeping are the only means to make straightforward progression.

**General style:**

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

*To make a paper clear:* Adhere to recommended page limits.

*Mistakes to avoid:*

- Insertion of a title at the foot of a page with subsequent text on the next page.
- Separating a table, chart, or figure—confine each to a single page.
- Submitting a manuscript with pages out of sequence.
- In every section of your document, use standard writing style, including articles ("a" and "the").
- Keep paying attention to the topic of the paper.

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• Use paragraphs to split each significant point (excluding the abstract).
• Align the primary line of each section.
• Present your points in sound order.
• Use present tense to report well-accepted matters.
• Use past tense to describe specific results.
• Do not use familiar wording; don't address the reviewer directly. Don't use slang or superlatives.
• Avoid use of extra pictures—include only those figures essential to presenting results.

Title page:
Choose a revealing title. It should be short and include the name(s) and address(es) of all authors. It should not have acronyms or abbreviations or exceed two printed lines.

Abstract: This summary should be two hundred words or less. It should clearly and briefly explain the key findings reported in the manuscript and must have precise statistics. It should not have acronyms or abbreviations. It should be logical in itself. Do not cite references at this point.

An abstract is a brief, distinct paragraph summary of finished work or work in development. In a minute or less, a reviewer can be taught the foundation behind the study, common approaches to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Use comprehensive sentences, and do not sacrifice readability for brevity; you can maintain it succinctly by phrasing sentences so that they provide more than a lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study with the subsequent elements in any summary. Try to limit the initial two items to no more than one line each.

Reason for writing the article—theory, overall issue, purpose.
• Fundamental goal.
• To-the-point depiction of the research.
• Consequences, including definite statistics—if the consequences are quantitative in nature, account for this; results of any numerical analysis should be reported. Significant conclusions or questions that emerge from the research.

Approach:
  o Single section and succinct.
  o An outline of the job done is always written in past tense.
  o Concentrate on shortening results—limit background information to a verdict or two.
  o Exact spelling, clarity of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else.

Introduction:
The introduction should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable of comprehending and calculating the purpose of your study without having to refer to other works. The basis for the study should be offered. Give the most important references, but avoid making a comprehensive appraisal of the topic. Describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will give no attention to your results. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here.

The following approach can create a valuable beginning:
  o Explain the value (significance) of the study.
  o Defend the model—why did you employ this particular system or method? What is its compensation? Remark upon its appropriateness from an abstract point of view as well as pointing out sensible reasons for using it.
  o Present a justification. State your particular theory(-ies) or aim(s), and describe the logic that led you to choose them.
  o Briefly explain the study's tentative purpose and how it meets the declared objectives.
Approach:
Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done. Sort out your thoughts; manufacture one key point for every section. If you make the four points listed above, you will need at least four paragraphs. Present surrounding information only when it is necessary to support a situation. The reviewer does not desire to read everything you know about a topic. Shape the theory specifically—do not take a broad view.

As always, give awareness to spelling, simplicity, and correctness of sentences and phrases.

Procedures (methods and materials):
This part is supposed to be the easiest to carve if you have good skills. A soundly written procedures segment allows a capable scientist to replicate your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order, but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt to give the least amount of information that would permit another capable scientist to replicate your outcome, but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section.

When a technique is used that has been well-described in another section, mention the specific item describing the way, but draw the basic principle while stating the situation. The purpose is to show all particular resources and broad procedures so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step-by-step report of the whole thing you did, nor is a methods section a set of orders.

Materials:
Materials may be reported in part of a section or else they may be recognized along with your measures.

Methods:
- Report the method and not the particulars of each process that engaged the same methodology.
- Describe the method entirely.
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures.
- Simplify—detail how procedures were completed, not how they were performed on a particular day.
- If well-known procedures were used, account for the procedure by name, possibly with a reference, and that's all.

Approach:
It is embarrassing to use vigorous voice when documenting methods without using first person, which would focus the reviewer’s interest on the researcher rather than the job. As a result, when writing up the methods, most authors use third person passive voice.

Use standard style in this and every other part of the paper—avoid familiar lists, and use full sentences.

What to keep away from:
- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings—save it for the argument.
- Leave out information that is immaterial to a third party.

Results:
The principle of a results segment is to present and demonstrate your conclusion. Create this part as entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Use statistics and tables, if suitable, to present consequences most efficiently.

You must clearly differentiate material which would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matters should not be submitted at all except if requested by the instructor.
Content:
- Sum up your conclusions in text and demonstrate them, if suitable, with figures and tables.
- In the manuscript, explain each of your consequences, and point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation of an exacting study.
- Explain results of control experiments and give remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or manuscript.

What to stay away from:
- Do not discuss or infer your outcome, report surrounding information, or try to explain anything.
- Do not include raw data or intermediate calculations in a research manuscript.
- Do not present similar data more than once.
- A manuscript should complement any figures or tables, not duplicate information.
- Never confuse figures with tables—there is a difference.

Approach:
As always, use past tense when you submit your results, and put the whole thing in a reasonable order.

Put figures and tables, appropriately numbered, in order at the end of the report.

If you desire, you may place your figures and tables properly within the text of your results section.

Figures and tables:
If you put figures and tables at the end of some details, make certain that they are visibly distinguished from any attached appendix materials, such as raw facts. Whatever the position, each table must be titled, numbered one after the other, and include a heading. All figures and tables must be divided from the text.

Discussion:
The discussion is expected to be the trickiest segment to write. A lot of papers submitted to the journal are discarded based on problems with the discussion. There is no rule for how long an argument should be.

Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implications of the study. The purpose here is to offer an understanding of your results and support all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of results should be fully described.

Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact, you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved the prospect, and let it drop at that. Make a decision as to whether each premise is supported or discarded or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."

Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work.
- You may propose future guidelines, such as how an experiment might be personalized to accomplish a new idea.
- Give details of all of your remarks as much as possible, focusing on mechanisms.
- Make a decision as to whether the tentative design sufficiently addressed the theory and whether or not it was correctly restricted. Try to present substitute explanations if they are sensible alternatives.
- One piece of research will not counter an overall question, so maintain the large picture in mind. Where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.
Approach:
When you refer to information, differentiate data generated by your own studies from other available information. Present work done by specific persons (including you) in past tense.
Describe generally acknowledged facts and main beliefs in present tense.

The Administration Rules

Administration Rules to Be Strictly Followed before Submitting Your Research Paper to Global Journals Inc.

Please read the following rules and regulations carefully before submitting your research paper to Global Journals Inc. to avoid rejection.

Segment draft and final research paper: You have to strictly follow the template of a research paper, failing which your paper may get rejected. You are expected to write each part of the paper wholly on your own. The peer reviewers need to identify your own perspective of the concepts in your own terms. Please do not extract straight from any other source, and do not rephrase someone else's analysis. Do not allow anyone else to proofread your manuscript.

Written material: You may discuss this with your guides and key sources. Do not copy anyone else's paper, even if this is only imitation, otherwise it will be rejected on the grounds of plagiarism, which is illegal. Various methods to avoid plagiarism are strictly applied by us to every paper, and, if found guilty, you may be blacklisted, which could affect your career adversely. To guard yourself and others from possible illegal use, please do not permit anyone to use or even read your paper and file.
Please note that following table is only a Grading of "Paper Compilation" and not on "Performed/Stated Research" whose grading solely depends on Individual Assigned Peer Reviewer and Editorial Board Member. These can be available only on request and after decision of Paper. This report will be the property of Global Journals.

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