

Exploring MNCs Supply Chain Challenges in the Bottom of the Pyramid (BoP) Market

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A thesis submitted to the Department of Procurement and Supply Management in partial fulfillment of the requirements for the degree of Masters in Procurement and Supply Management

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Declaration

It is hereby declared that

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2. The thesis does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The thesis does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. We have acknowledged all main sources of help.

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Approval

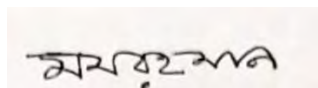
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of Spring, 2020 has been accepted as satisfactory in partial fulfillment of the requirement for the degree of Masters in Procurement and Supply Management on [Date-of-Defense].

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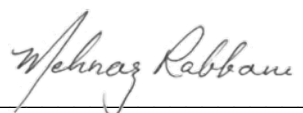
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Ethics Statement

- I. The research paper has been prepared considering the guidelines of BIGD.
- II. The researcher sought consents from the respondents before conducting the qualitative and quantitative interview.
- III. The respondents took part in the study voluntarily.
- IV. The researcher respect the confidentiality and anonymity of the research respondents.
- V. The researcher takes responsibility of the quality of the work and declares hereby that the research is independent and impartial.

Abstract

The BoP market is one of the biggest emerging markets in the economy that worth potentials more than trillions of dollars. However, the biggest challenge is to tap the potentiality of the market and take advantage of the potentiality lies in the market. The multinational companies are struggling hard to restructure the business to develop suitable models to explore that market. However, due to the lack of relevant studies and research the potentially of the market still remains unfolded in many of the markets in the global economy. Therefore, the study has been conducted to explore the supply chain challenges in the bottom of the pyramid market.

The study has been carried out applying the interpretivism philosophy as it fits mostly with the context of the research. The reason behind following this particular philosophy is to address the issue accurately by collecting data from the primary sources. Besides, the context of the issue is very dynamic and evolving in nature and that leads the researcher to select this particular philosophy to solve the issue at hand rather considering the reality is stable. Inductive research approach has been adopted for carrying out this study. The dynamism in the BoP market in Bangladesh is the key reason for which this approach has been adopted. Conducting the study without properly assessing the current condition of the issue would fail to reflect the true scenario. Adoption of deducted research approach would have narrowed down the scopes of the study. The concept of BoP market research to address the supply chain challenges is very new in the context of the Bangladeshi market. Hence, the bigger picture is yet to be understood to recommend specific areas to be addressed. Therefore, the researcher should conduct an exploratory study to gather the necessary information to understand the problems or opportunities.

The researcher has selected a sample of 45 employees from 15 organizations on which the survey has been carried out. For selecting the sample organizations, the researcher has used stratified sampling method under which the population dataset has been divided in different strata in terms of BoP market practices by the multinational companies in Bangladesh. The study has been conducted solely based on primary data collection. As there is lack of sufficient and reliable secondary data on the research topic, the researcher has conducted a survey on the employees of Supply Chain functions in different multinational companies to get the information. The survey questionnaire has included both close-ended and open-ended questions. As per data analysis, the researcher has used spreadsheet program MS Excel to convert the collected responses of the survey into numerical forms and present the findings of the research by using different graphs and charts.

The study includes four broad objectives and throughout the study, the research has sought answers to satisfy the objectives of the study. The findings of the study shows following supply challenges namely weaknesses of the current information system, limitation of the supply chain information linkages, and information system linkage between the consumers and the retailers. Besides, the weak organizational infrastructure, cash poor consumers, investment constraints, products' pricing and packaging, geographical and economic status of the country, and the awareness among the BoP market consumers have been shown with graph to understand the challenges in logistics and supply chain performance of the multinational companies in the bottom of the pyramid market in Bangladesh. From the findings, it is also found that currently the multinational companies are not directly tapping the BoP market. Rather they are making partnership with the local market distributors to sell the products. Moreover, they are now introducing field sales supervisors, and agents in the bottom of the pyramid market so that they can get information about the market directly and build a strong position in the market. To make the supply chain effective and eradicate challenges, the multinational companies are now designing innovative products, improving the efficiency and productivity, starting cost-saving production and distribution, and influencing policy makers and regulators.

Keywords: SCM, BoP, MNC, FMCG, Challenge, Poor

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List of Acronyms

SCM	Supply Chain Management
BoP	Bottom of the Pyramid
MNC	Multinational Company
FMCG	Fast Moving Consumer Goods

Chapter 1

Introduction

1.1 Rationale of the Research

The concept bottom of the pyramid (BoP) has been introduced by the Franklin D. Roosevelt, the president of United States (US) for the very first time in 1932 (Pralhad, 2005). According to the president, the economists have plan for the upper layer of the society or nation but they always forgot the inseparable part of the economy who holds unimaginary power to stabilize and strengthen the base of the economy. And those forgotten group should be termed as the base of the pyramid. FAWCETT et.al (2011) has mentioned that those who mostly known as the poor and ultra-poor in the economy are the “Base of the Pyramid.”

The BoP market is one of the biggest emerging markets in the economy that worth potentials more than trillions of dollars. However, the biggest challenge is to tap the potentiality of the market and take advantage of the potentiality lies in the market. The multinational companies are struggling hard to restructure the business to develop suitable models to explore that market. However, due to the lack of relevant studies and research the potentially of the market still remains unfolded in many of the markets in the global economy.

According to Asian Development Bank (2019), Bangladesh is one of the biggest BoP markets for the multinational companies as majority of the people in Bangladesh lives in the rural areas with very low per capita income. However, the no companies can come up with a sustainable solution to address the challenges of the BoP market in Bangladesh. Besides, research in this field is very insignificant to provide sustainable development solutions. One of the core challenges for the multinational companies is to understand the supply chain mechanism of the BoP market. Hence, the researcher of the study has selected the topics to explore the challenges that hinders the business potentiality of MNCs in the BoP markets in Bangladesh.

1.2 Background of the Research

There are many issues to address the supply chain challenges of the multinational companies. But the researcher has selected this issue due to the interest in exploring new supply chain opportunity for multinational companies through addressing the challenges recommending policies to ensure wider scope of supply chain performances. In addition, the researcher wants

to learn the BoP market deeply so that the researcher can innovate interventions in future to mitigate the challenges and gaps identified with sustainable solutions. On the other hand, the researcher has studied relevant literatures in the field to understand the supply chain challenges in the BoP market but due to availability of resources the thirst of the researcher is unfulfilled. Hence, the researcher has aimed to explore the supply chain challenges in the BoP market by conducting primary research.

1.3 Research Aim and Objective

In order for fulfilling the aim, the researcher has formulated the following objectives for the research.

- a. To understand the BoP market opportunities in Bangladesh for MNCs.
- b. To investigate the challenges in logistics and supply chain performance of the MNCs in the Bop market.
- c. To understand the current industry practice to address the supply chain challenges in the BoP market by the MNCs.
- d. To perceive the benefits of effective supply chain management in the BoP market.
- e. To recommend solutions to mitigate the challenges identified in the study.

1.4 Research Question

Throughout this research, the researcher will try to seek answers for the following questions.

- a. What are opportunities in the BoP market of Bangladesh for MNCs?
- b. What are the challenges in supply chain management functions of the MNCs in the BoP market?
- c. What are the current industry practice of supply chain management in the BoP market in Bangladesh?
- d. What are the benefits of effective supply chain management in the BoP market?

Chapter 2

Literature Review

2.1 Bottom of the Pyramid (BoP) Market

The concept Bottom of the Pyramid (BoP) can be explained as a notion of splitting the world into a pyramid where the rich belong to the top and the underprivileged poor belong to the bottom of that pyramid. According to Prahalad (2005), people who live on earning less than \$2 per day belong to the bottom of the pyramid. The researcher has also mentioned that more than 4 billion people in the world belong to that category. To draw a better picture, many economists have used purchasing power parity (PPP) to measure the level of poverty. However, the size of the population and per capita income level are controversial numbers as the data shown by many researchers including Prahalad himself are inconsistent (Prahalad & Hammond, 2002). And the definition of poverty is very critical in a broader sense and only income level cannot be the definite parameter of measuring poverty.

The thought of recognizing the poorest people of the world as consumers and developing solutions to cater that segment has created the urge to conduct more research to find feasible solutions. According to WEF (2009), businesses are gradually considering including BoP as a potential market to secure long-term growth. It is considered that the BoP market possesses vast potentiality and MNCs should rethink the approaches already taken and redesign the business models to extract benefits.

According to WEF (2009), the BoP market has huge potential and early movers with a feasible solution can capture the ultimate benefit by offering new solutions, establishing efficient delivery channels, and building loyal consumers and producers base. Moreover, the MNCs can own the largest pie of the market share and possess greater valuable market insights. However, generating insights from the BoP market and redesigning the business model is very critical, challenging, and expensive (Ireland 2008). Besides, the underlying differences and diversity among the population play a big role as development constraints while addressing the issues in the BoP market.

2.2 BoP Market in Bangladesh

Bangladesh is a densely populated country with a tag of “Lower-middle Income Country” and aiming to be graduated as a Least Developed Country by 2024. According to Asian Development Bank (2019), 21.8% of the total population lives below the poverty line but this

cannot help anyone to perceive the adverse situation but useful from the perspective of statistics to consider that poorer segment as the BoP, who cannot fulfill their minimum life requirements. In Bangladesh, the poorer class that has been mentioned is not starving rather they are deprived of and struggling to fulfill minimum life expectancy. Besides, the majority of people from the top and middle parts of the pyramid consider the BoP as poor, helpless, and unskilled. In the real scenario, they are neither of those rather they are more capable and skillful to manage life with limited resources.

2.3 BoP Market Potential in Bangladesh

BoP market in Bangladesh is one of the untapped potential markets of the economy left unnoticed. Unfortunately, there are very limited numbers of research that has been conducted to address the problem areas to suggest solution or innovation opportunities. From general observation, it can be opined that reaching out to that group of people with a sustainable business solution after conducting adequate research would help the businesses to flourish. Moreover, the perspective towards the BoP should be changed and businesses should consider them as consumers and producers.

BoP market in Bangladesh can be segmented from the perspective of both consumers and producers. It Includes-

- a. Farmers and their family members (Urban and Rural).
- b. Small and cottage industry workers and their family members. (Rural)
- c. Rickshaw, van pullers, and their family members (Urban and Rural).
- d. House workers, day laborers, and their family members (Urban and Rural).
- e. Garments workers and their family members (Urban and Rural).
- f. Sweeper, cobblers, and other lower-income workers (Urban and Rural).

Products and services can be offered-

- a. Medicine and health care services
- b. Nutritious food
- c. FMCG products
- d. Sports and entertainment

e. Digital products and services

2.4 Supply Chain Challenges in the BoP Market

According to Ireland (2008), supply chain activities in the bottom of the pyramid market is very challenging and critical there involves multiple channels which make the supply chain very complex. Moreover, the volatility of the supply chain activities in the BoP market requires prompt action from the organization and this is very difficult to do in the BoP market. Marr, (2017) has stated that consumers' demand and need in the bottom of the pyramid market are very unique hence, these require extra focus from the management of the multinational companies to satisfy the requirements. According to Prahalad (2005), the supply chain activities in the bottom of the pyramid market is very risky and association of the risks create pressure among the employees involved in the supply chain management. As a result, companies sometimes fail due to the lack of forecasting capacity.

The bottom of the pyramid market consumers cannot be catered immediately as the information system linkage in the bottom of the pyramid is not efficient enough to response immediately by the multinational companies to cater the demand of the consumers (Jin, 2006). According to Twin (2020), digital inventory management, digital order collection and processing are must to response promptly to fulfill the requirements of the consumers but the nature of the BoP market does not align with the modern activities of the multinational companies. Moreover, transportation and geographical location of the bottom of the pyramid market have created extra challenge on the multinational companies which have no effective solution unless the infrastructure of the area gets developed or renovated.

Chapter 3

Research Methodology

3.1 Research Philosophy

The concept of research is very much varying in nature and different types of research concept and philosophies has been developed by many researchers over the years. Hence, the selection of appropriate philosophy for conducting the research is very significant. However, FAWCETT et.al (2011) has mentioned three most useful philosophies of research namely positivism, interpretivism and realism. The positivism philosophy considers that reality is stable and viewpoint of the researcher holds higher significance in drawing research conclusion though perceived knowledge and experience. On the other hand, interpretivism philosophy is opposite to the positivism philosophy as it demands accuracy in the data collection and analysis and considers reality is dynamic and evolving in nature. The third category of philosophy, realism, emphasises ore on the truth of the reality and demands scientific enquiry of the context.

Among the aforementioned three philosophies, the interpretivism philosophy fits mostly with the context of the research. The reason behind following this particular philosophy is to address the issue accurately by collecting data from the primary sources. Besides, the context of the issue is very dynamic and evolving in nature and that leads the researcher to select this particular philosophy to solve the issue at hand rather considering the reality is stable.

3.2 Research Approach

There are two common approaches to conduct a research namely inductive and deductive approach. In inductive approach, the researcher does not develop any hypothesis or theory without doing thorough investigation of the context of the research topic. Alternatively, in deductive approach the researcher develops hypothesis or theory using own judgements and knowledge and later, justify the results using different analysis methods.

Inductive research approach has been adopted for carrying out this study. The dynamism in the BoP market in Bangladesh is the key reason for which this approach has been adopted. Conducting the study without properly assessing the current condition of the issue would fail to reflect the true scenario. Adoption of deducted research approach would have narrowed down the scopes of the study.

3.3 Research Method

In order to conduct the research and to evaluate findings for the investigation, researchers need to focus on all the available research tools and methods. In research, researchers generally gather two types of data namely primary and secondary.

1.0 Primary Research: In the primary research, researchers capture and collect data directly from the source- that is, from potential customers.

2.0 Secondary Research: In secondary research, researchers do not collect data directly from the source rather they collect the data from outside entities or institutions who have already collected data from the primary sources.

Two types of market research can be conducted using both primary and secondary data:

1.0 Exploratory: To understand the problem or opportunity more researchers here prefer to gather open-ended data from as many people as they can. The core objective of conducting an exploratory study is to understand all the possible perceptions and opinions regarding the issue at hand so that users of the research outcome can decide how to address or solve the issue.

2.0 Specific: Specific research is conducted when the researchers have a thorough understanding of the bigger market problems or opportunities. Therefore, they prefer to use a specific set of questions to gather the necessary information and find a solution for a new product or service.

The concept of BoP market research to address the supply chain challenges is very new in the context of the Bangladeshi market. Hence, the bigger picture is yet to be understood to recommend specific areas to be addressed. Therefore, the researcher has conducted an exploratory study to gather the necessary information to understand the problems or opportunities.

There are many primary research tools available to conduct market research namely surveys, focused group discussions, observations, and in-depth interviews. However, to conduct the BoP market research in-depth interviews should be the ideal tool.

3.4 Data Collection and Analysis Method

This study has been conducted solely based on primary data collection. As there is lack of sufficient and reliable secondary data on the research topic, the researcher has conducted a survey on the employees of Supply Chain functions in different multinational companies to get the information. The survey questionnaire includes both close-ended and open-ended questions. As per data analysis, the researcher has used spreadsheet program MS Excel to convert the collected responses of the survey into numerical forms and present the findings of the research by using different graphs and charts.

3.5 Sampling Technique

The large number of employees in logistics and supply chain of different multinational companies will not be possible to incorporate in the survey. Hence, the researcher has selected a sample of 45 employees from 15 organizations on which the survey has been carried out. For selecting the sample organizations, the researcher has used stratified sampling method under which the population dataset has been divided in different strata in terms of BoP market practices by the multinational companies in Bangladesh. For selecting the employees from different organizations, simple random sampling technique has been followed to ensure that every employee gets equal chance to be selected.

Chapter 4

Data Analysis and Findings

4.1 Introduction

In this chapter of the study, data analysis and findings have been shown according to the predesigned research methodology. This chapter of the study thoroughly covers the BoP market current scenario and practices in Bangladesh which is very essential to understand the supply chain performance and practice in the BoP market. Moreover, the findings of the study include the perception of the consumers in the BoP market regarding products and services they avail. Besides, supply chain factors that need to be considered by the multinational companies while tapping into the BoP market have been thoroughly analyzed and explained. The core objective of the study is to explore the supply chain challenges in the BoP market in Bangladesh. Hence, the researcher has broadly covered the supply chain challenges, activities taken by the MNCs to overcome the challenges and their activities, perception, experience, opinion, and recommendations.

All the relevant data for the analysis have been collected by developing questionnaire and collecting information by conducting key informants interview. While conducting the KII, the researcher has considered the core objectives of the study sincerely so that the analysis and finds reflect the exclusive objectives of the study. In the questionnaire, the researcher includes both open ended and close ended questionnaire to examine the results from different paradigm. Besides, Likert scale questionnaire has also been included to understand the perception of the respondents and the organizations very deeply.

The data of the study has been collected from the primary sources. For data collection the researcher has used KOBO Tollbox, and conducted KIIs using zoom meeting software. The researcher has analyzed the data of the study using statistical software STATA. Moreover, the researcher has used Microsoft Excel for graph preparation and data visualization.

4.2 Company Overview

To conduct the study successfully and capture authentic and relevant information, the researcher has selected 15 multinational companies operated in Bangladesh. Among the companies the researcher has took 3 key respondents from different departments of the selected organizations namely supply chain management, marketing, operations, sales, and finance. A

graph has been presented below to show participation of respondents from different department of the selected multinational companies.

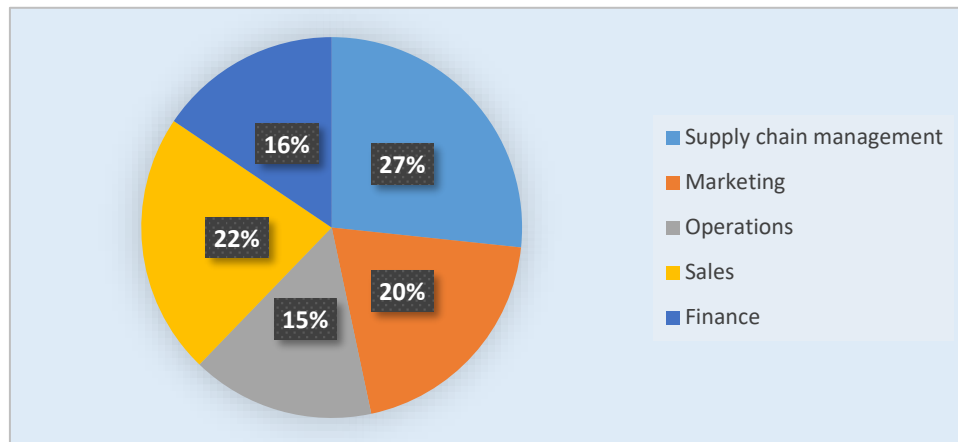


Figure 1: Department of the Respondents

From the graph it is evident that, 27% of the respondents are from supply chain management department, 20% of the respondents are from marketing department, 15% of the respondents are from operation department, 22% of the respondents are sales department, and rest 16% of the respondents are from finance department of the respective multinational companies. The majority of the respondents are taken from supply chain management department as the core objective of the study is to explore the challenges of supply chain activities faced by the multinational companies while operating business activities in the bottom of the pyramid. Moreover, among the remaining participants marketing and sales personnel of the MNCs are given priority as they are directly involved in the execution of the supply chain activities of the businesses. Operation department of the businesses is also given priority as they monitor and control the supply chain performance of the organizations and they are the key decision makers while executing any activities of the organizations. In addition, Finance department has also been included to understand the investment requirements, constraints, disbursement of the multinational companies while executing any supply chain activities.

To conduct the study successfully and capture unbiased information, the researcher has tried to incorporate multinational companies from different industries operated in Bangladesh. Here, the objective of the researcher is to collect information that are generally applicable to understand the practices of multinational companies operated in Bangladesh. Besides, the researcher has broader objective to understand the current culture and practices of different multinational companies in the bottom of the pyramid in Bangladesh so that the researcher can recommend based on the general information received from different professional performing in different industries in Bangladesh. The following graph shows the percentage of different

type of companies from which the respondents took part to support and cooperate to make the study successful.

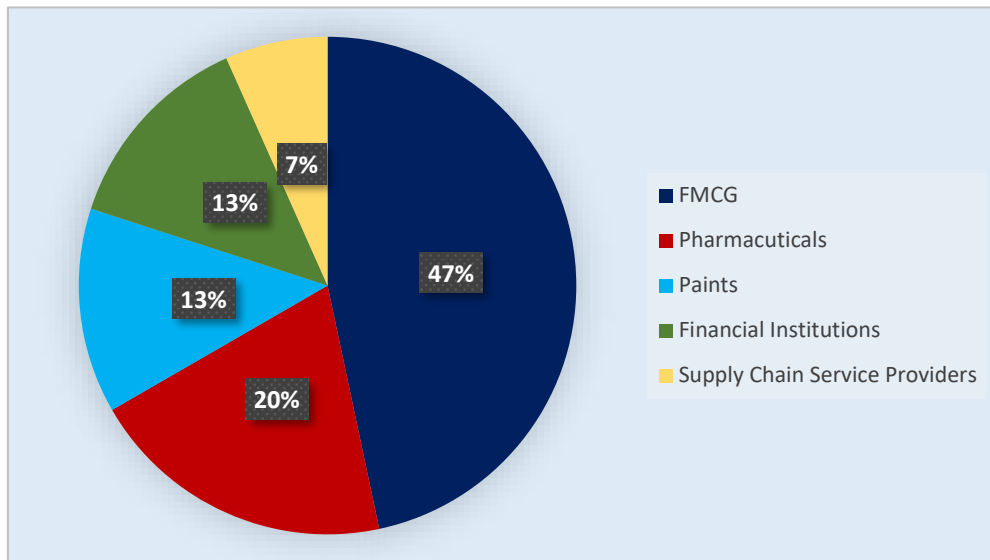


Figure 2: Main Products Line of the Companies

Among the selected 15 companies 47% of the respondents are from fast moving consumer goods (FMCG) industry. The weight of the FMCG is higher because, majority of the products sold in the bottom of the pyramid are from regular grocery items produced by multinational companies namely soap, shampoo, toilet cleaners, noodles, washing powder, hair oil, and so many other necessary items. Hence, the researcher has prioritized the FMCG companies while selecting sample for the study. The researcher has selected 20% of the sample companies from the pharmaceuticals industry because one of the important basic needs of bottom of the pyramid market consumers is to get adequate medicine support during sickness. And majority multinational companies produce important medicine for the people suffered different critical sicknesses. Hence, the researcher has taken multinational pharmaceuticals companies to get better insights about the supply chain challenges in the bottom of the pyramid market while supplying necessary medical and healthcare medicines. The researcher has taken 13% of the respondents from the paints industry as recently many poor families are using paints to make their house beautiful. Moreover, in many villages people from small and cottage industry uses paints to produce necessary items that are sold in the market of the urban areas. One of the most important sample of the study is financial institutions. Majority of the bottom of the pyramid workers live in the rural areas, and the major sources of their income generated from selling agricultural produces and receiving remittances. Hence, the researcher has incorporated 13% multinational financial institutions to understand their offering to the bottom of the pyramid

clients and what problems they face in their supply chain management while executing the services to the clients in the BoP market. The researcher has also incorporated one supply chain service providers in the list to understand the delivery and distribution problems in the bottom of the pyramid more closely. Hence, 7% of the sample includes supply chain service providers as a sample of the study.

4.3 Current Scenario of the BoP Market Bangladesh

Bottom of the pyramid market is globally one of the potential markets that require more attention to bring that into the lights. There are many products and services that need to be introduced into the market so that the consumers in the bottom of the pyramid get equal opportunity to experience and avail. BoP market in Bangladesh is one of the untapped potential markets of the economy left unnoticed. However, there are limited initiatives taken from macro level to reach the potential consumers in the BoP market. One of the core challenges multinational companies face while entering in the bottom of the pyramid is during consumer and market identification. However, the multinational companies are taking initiatives to map the bottom of the pyramid market consumers. In the key informant interview, the respondents has been asked to mention who are the main consumers at the bottom of the pyramid market. Among the respondents, 87% of them responded that the poor people those who live below the poverty line are the major consumers at the bottom of the pyramid market. However, one of the respondents has added that not only the poorer people but also general people living in the remote areas should also be considered as bottom of the pyramid market consumers as they have available money and resources but they do not get necessary products and services as they live in the remote places in the rural area. One of the respondents from pharmaceutical industry has stated that bottom of the pyramid consumers is very critical to identify as they do not live in any specific areas or region rather, they live all over the Bangladesh. Hence, mass expansion of the business through effective supply chain management are very important to reach the potential consumers at the bottom of the pyramid market.

4.3.1 Supply Chain Challenges in the Bottom of the Pyramid Market

The major constraints of the multinational companies face while distributing products and services at the bottom of the pyramid market is related to the supply chain management. The supply chain issue increases the cost of the distribution of the products at remote areas which ultimately force the businesses to sacrifice profits or increase the price of the products. Both of the initiatives result negative impacts either on the business or on the consumers. Hence, the

researcher has asked the respondents to mention on Likert scale parameter regarding the supply chain challenges they face while reaching bottom of the pyramid consumers in Bangladesh.

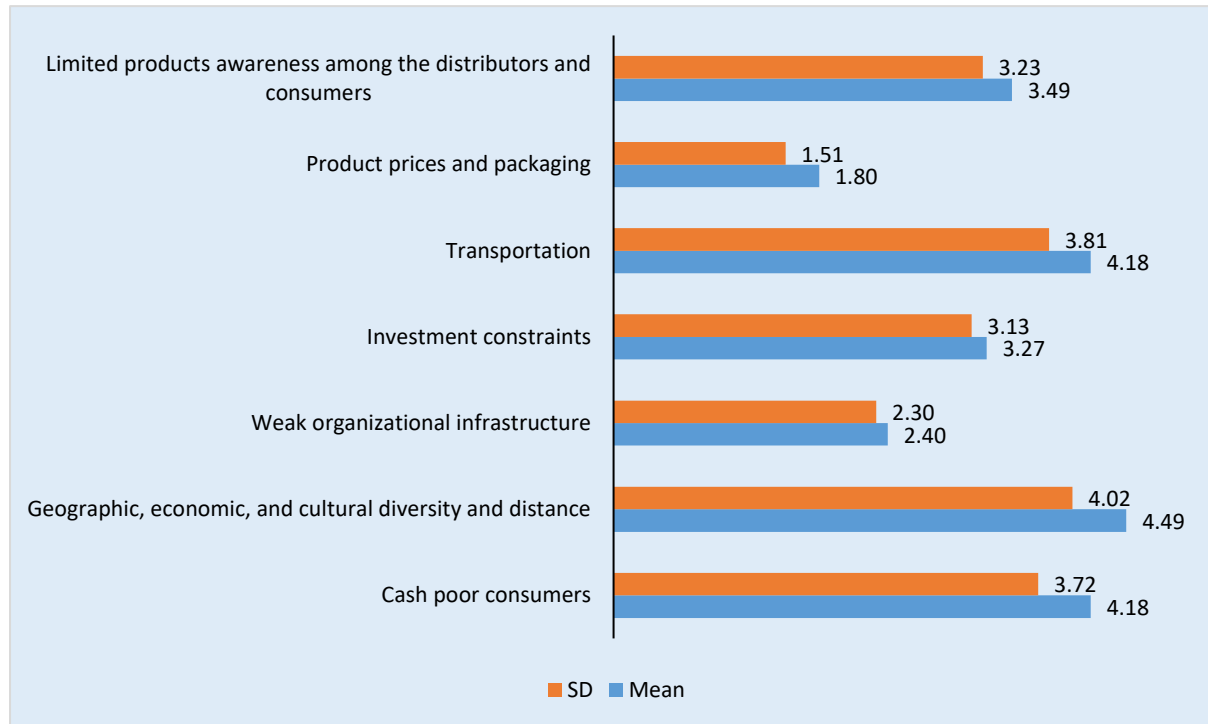


Figure 3: Supply Chain Challenges in the BoP Market

To understand the supply chain challenges in the bottom of the pyramid deeply, the researcher has asked the respondents to rate supply chain challenges namely cash poor consumers, geographic, economic, and cultural diversity and distance, weak organizational infrastructure, investment constraints, transportation, product prices and packaging, and limited products awareness among the distributors and consumers on Likert scale parameter where rating 1 indicates strongly disagree, and rating 5 indicates strongly agree. From the graph, it is evident that cash poor consumers receive mean rating of 4.18 with 3.72 standard deviation. This indicates that the respondents from the multinational companies agree that the major supply chain challenge in the bottom of the pyramid market is cash poor consumers because, the higher distribution cost is obvious but the consumers are very poor in the market. Hence, they cannot sell the products in the bottom of the pyramid market keeping adequate profit. Besides, the geographical heterogeneity, economic status of the country, cultural diversity, and distance carry mean 4.49 with standard deviation of 4.09. This indicates that the respondents strongly agree that due to the geographical constraints the multinational companies cannot distribute products nationally at same price. Because of this, people in the remote and rural areas are mostly deprived of getting equal services like the cities or comparatively developed areas. Besides, the weak organizational infrastructure is one of the core challenges in the bottom of

the pyramid market. However, this carry mean of 2.40 with standard deviation of 2.30. This indicates respondents mostly disagree with this and are not ready to accept this as supply chain challenge serving the people at the bottom of the pyramid. Transportation carries mean of 4.18 with standard deviation of 3.81. This indicates that the respondents agree to the point that lack of adequate transportation facilities create the supply chain challenge while serving the people at the bottom of the pyramid market. Moreover, the investment constraints carry mean of 3.27 with standard deviation of 3.13. This indicates that the multinational companies are indifferent considering investment as a supply chain constraint. Majority of the respondents do not consider products pricing and packaging as an issue. According to one of the respondents from FMCG industry, “The product prices and packaging are not supply chain issue. These become only issue because of the cost associated with the distribution and transportation as product prices increase at the bottom of the pyramid due to the inefficient distribution channel.” However, majority of the respondents agree to the point that product awareness among the bottom of the pyramid market consumers create the major challenge. People are not ready to pay more for quality products as majority of the consumers at the bottom of the pyramid market are cash poor consumers and they do not have the luxury to pay more for quality products and services.

4.3.2 Perception of the MNCs towards the Bottom of the Pyramid Market Consumers

Asian Development Bank (2019), more than 21% of the people in Bangladesh live below the poverty line. However, the multinational companies are putting effort to understand the behavior of the consumers of the bottom of the pyramid consumers in Bangladesh to identify the techniques to measure the supply chain challenges and design strategies to overcome those challenges.

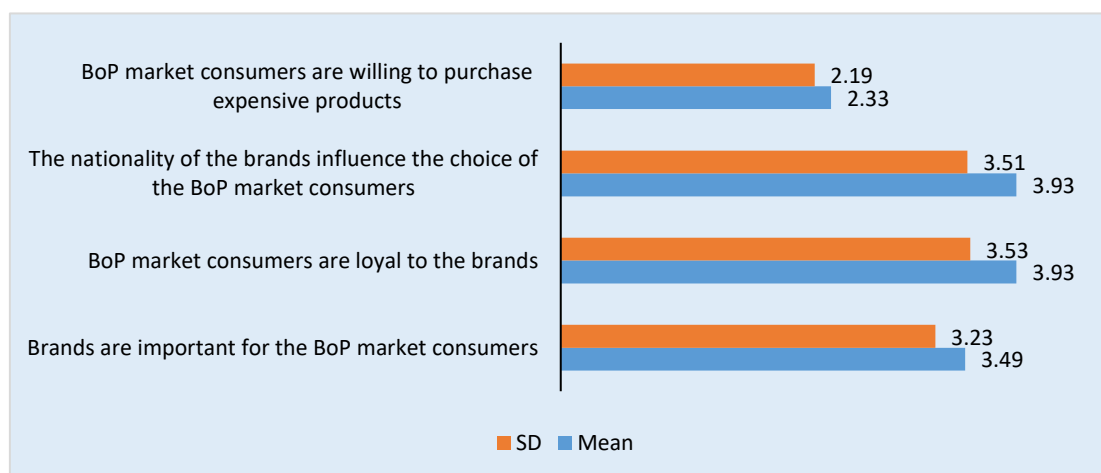


Figure 4: Perception of the MNCs towards BoP Market Consumers

In this point of the study, the researcher has tried to capture the perception of the respondents from the multinational companies regarding the behavior of the consumers at the bottom of the pyramid. To understand the perception of the respondents from the multinational companies, the researcher has asked the respondents to rate the behavior of the consumers namely brand importance to the bottom of the pyramid consumers, loyalty of the bottom of the pyramid consumers towards brands, influence of the nationality of the brands on the bottom of the pyramid market consumers, and the willingness of the bottom of the pyramid market consumers to purchase expensive brands on Likert scale parameter where rating 1 indicates strongly disagree, and rating 5 indicates strongly agree.

From the graph, it is evident that the respondents have rated the brand importance from the perspective of the bottom of the pyramid market consumers with mean score of 3.49 and standard deviation of 3.23. This indicates that they somehow agree on the point that the bottom of the pyramid market consumers gives little priority to the brands. One of the respondents mentioned that many consumers at the bottom of the pyramid receive the communication of the brand through television media. They love to use brands that are consumed by their favorite celebrity. The opinion of the respondent is justified by the rating of the next statement. Brand loyalty of the bottom of the pyramid market consumers carry mean score of 3.93 with standard deviation of 3.53. This indicates that majority of the respondents agree that the bottom of the pyramid consumers is loyal to the brands. However, according to a respondent, the consumers at the bottom of the pyramid market are only loyal to the brands that are cheaper and affordable. Besides, many respondents agree to the point that the nationality of the brands has significant influence on the bottom of the pyramid market consumers. This carries mean score of 3.93 with standard deviation of 3.51. One of the respondents has mentioned that people love to use foreign brands when they get scope. Last year, the organization of the respondent conducted a study where it is evident that the bottom of the pyramid market consumers feels proud when they avail products that has international presence. However, the bottom of the pyramid market consumers is not willing to pay extra money for branded products. From the perception of the respondents from the multinational companies it is evident that most of them disagree to the point that bottom of the pyramid consumers is ready higher price for greater value products. The mean score of the statement is 2.33 with standard deviation of 2.19.

4.4 BoP Market Consumers in Bangladesh and Their Perception

One of the most challenging tasks of the multinational companies is to reach the potential consumers at the bottom of the pyramid. Hence, they apply different strategies and techniques

to capture maximum number of consumers from the bottom of the pyramid market. The communication strategy of the multinational companies assists them to grow positive perception about the brands among the consumers as well as support them increasing the effectiveness of the supply chain activities undertaken. Hence, the researcher has sought to understand the techniques that the multinational companies apply to inform consumers at the bottom of the pyramid about the brands.

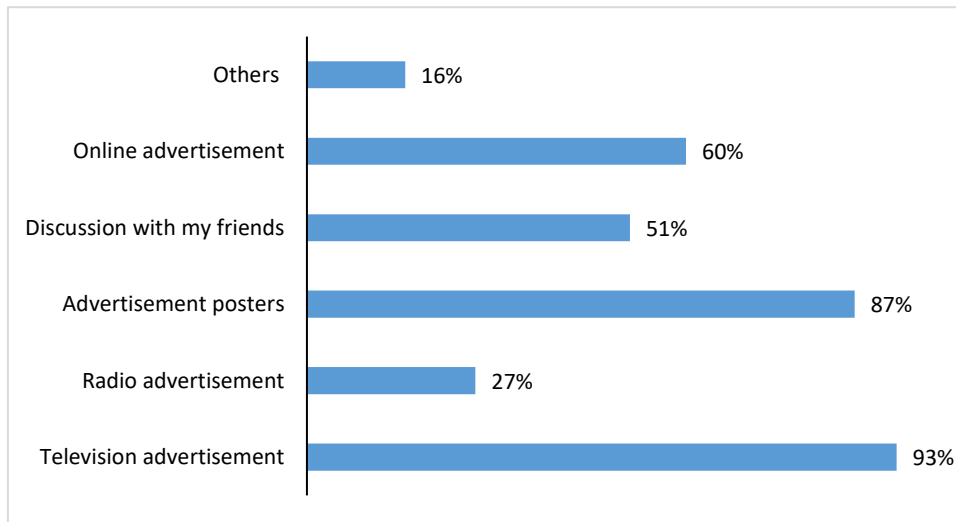


Figure 5: Branding Channels in the BoP market

From the graph it is evident majority of the companies rely mostly on the television advertisement. This point carries 93% weight that indicates that television media plays an active role in letting the consumers at the bottom of the pyramid to know about the products. Moreover, the study also finds that 87% of the respondents use posters to reach the brands to the mind of the consumers. One of the respondents has mentioned that they use poster in the tea stalls, grocery stores and crowded places to grab the attention of the consumers. They mostly use celebrity images to attract the attention of the consumers. Nowadays, online advertisement has become very popular among the consumers as majority of the people in the remote areas use social media connect and communicate with the near and dear ones. Hence, 60% of the respondents have mentioned online medium as an effective tool to reach mass level consumers at the bottom of the pyramid. One of the respondents has mentioned that Facebook and imo is very popular in the rural areas and therefore, they invest more in digital marketing to reach maximum level of consumers. However, word to mouth branding is also effective in the bottom of the pyramid. 51% of the respondents have given opinion that when they give any trade offer it becomes viral in the rural areas as many people want to avail the opportunity.

Besides, 16% of the respondents use different other medium namely leaflet, market activation program to reach the consumers at the bottom of the pyramid to inform them about the brands.

4.4.1 Consumers Perception about the Quality of the Packaging

It has been asked to the respondents from the multinational companies to give opinion about the perception of the consumers regarding the packaging of the products. Packaging of the products is very important to keep the quality of the products as well as make the products look attractive to the consumers.

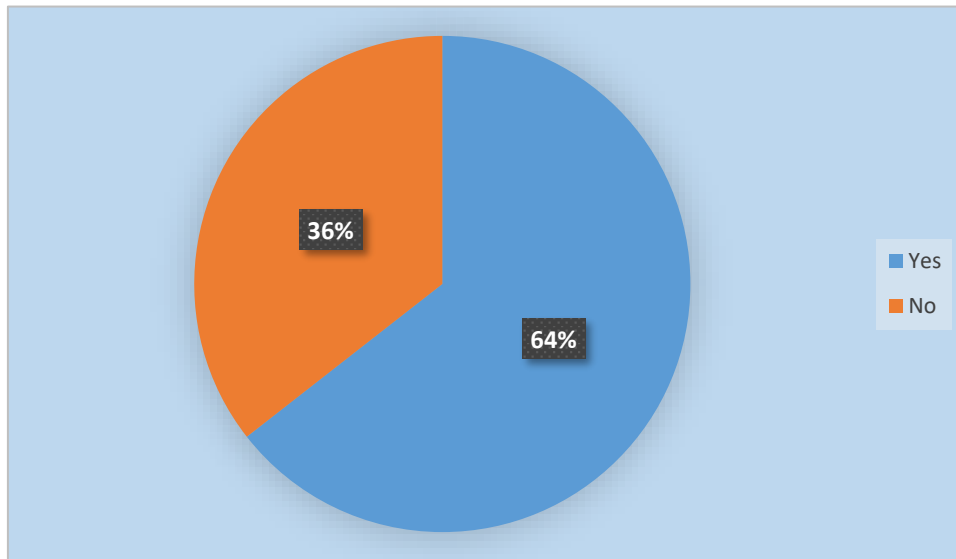


Figure 6: Perception about the BoP Consumers Priority Regarding Packaging

From the graph it can be seen that 64% of the respondents from the multinational companies have mentioned that the packaging quality is very important among the bottom of the pyramid market consumers. The remaining 36% does not consider packaging as a priority among the bottom of the pyramid market consumers. One of the respondents has stated that, packaging is very crucial for the company as well, as it helps the companies to get the products in good condition during distribution. According to the respondent, good quality packaging is very important and it is very expensive as well. Due the quality of packaging sometimes increases the product prices which ultimately increases the retail price of products and hamper the effectiveness of the supply chain management. Moreover, bad quality packaging hampers the quality of the products during transportation which limits the distribution activities of the multinational companies.

4.4.2 Consumers Interest about the Products Information

The study also seeks to know the consumers interest and awareness about the products to understand the supply chain challenges and opportunities. Hence, the researcher has asked the

respondents from the multinational companies to mention the interest among the consumers regarding the information provided in the package.

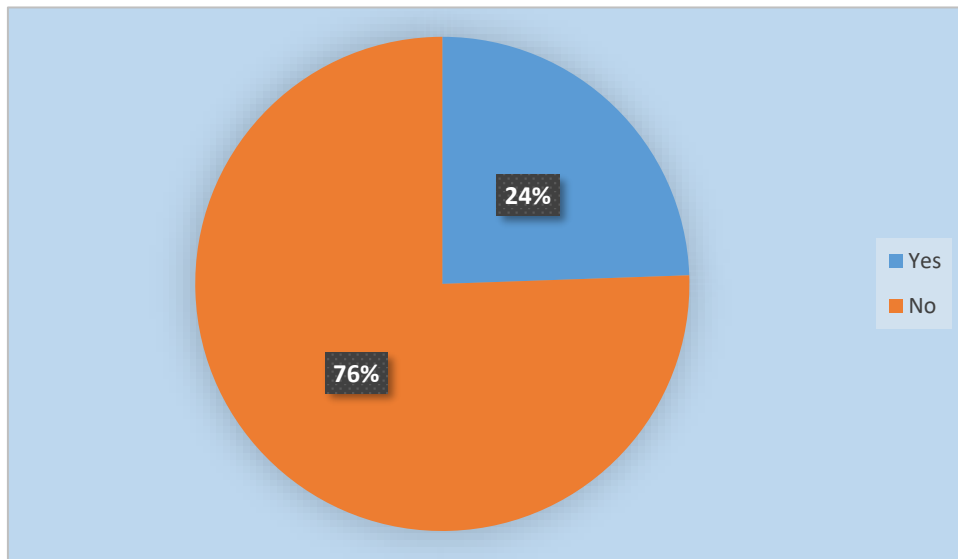


Figure 7: Bop Consumers Awareness about the Product Specifications

From the graph shown above, it is evident that 76% of the respondents from the multinational companies have mentioned that bottom of the pyramid market consumers is not aware of the product specifications, guidelines, and quality details mentioned in the packet of the products. However, the consumers are concerned about the quantity they are receiving paying the money to the retailers.

4.4.3 Online Forum as an Effective Tool to Reach BoP Market Consumers

Nowadays, the use of social media platforms is increasing significantly over the time. And the presence of the consumers in the online has become a very effective medium for the multinational companies to reach the maximum number of consumers.

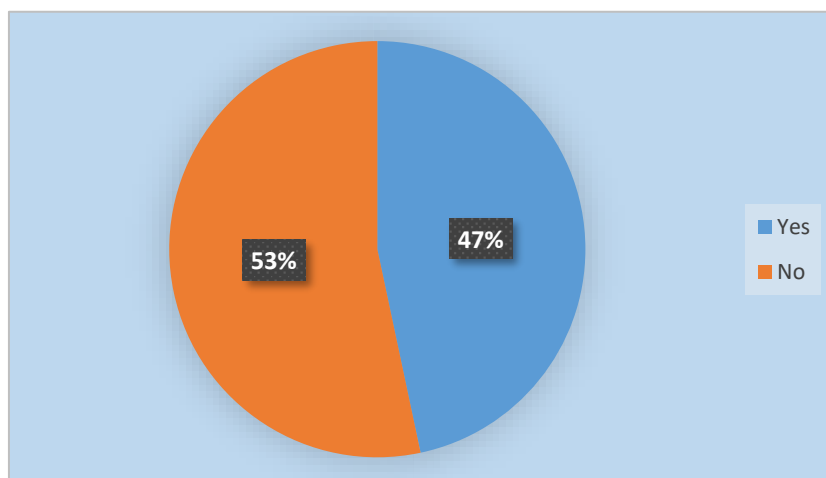


Figure 8: Use of Online Media to Reach BoP Consumers

Effective communication has always been a very important part of making supply chain management effective. Supply chain activities mostly get hindered due to lack of communication and proper channel to identify the target consumers availability and the potential market. Hence, the study seeks to know how much online media is effective to reach the BoP market consumers. From results, it is evident that 53% of the respondents from the multinational companies have mentioned that online media does not work effectively to reach the consumers at the bottom of the pyramid. However, 47% of the respondents have mentioned that online media is the next big platform to reach the maximum level of the consumers. One of the respondents has mentioned that per capita income of the consumers is increasing and internet is available to everyone. Hence, in near future, online platform will be the most effective platform share the communication of the products to the consumers.

4.5 Supply Chain Factors that Need to be Considered for Tapping into BoP Market

Multinational companies always try make the supply chain effective and efficient so that they can reach to the maximum number of consumers at a very shortest possible time with minimum cost. However, to reach the bottom of the pyramid market multinational companies must consider the factors associated in the process namely effective channel to reach the maximum number of BoP market consumers, consumers priority, and the resources that play the vital role in strengthening the supply chain effectiveness at the bottom of the pyramid.

4.5.1 Effective Channel to Reach the BoP Market Consumers

Multinational companies use diverse sales and distribution channels to reach maximum number of the consumers and retailers at the bottom of the pyramid market. Hence, the study seeks to know the available sales and distribution channel used by the multinational companies to reach maximum number of consumers.

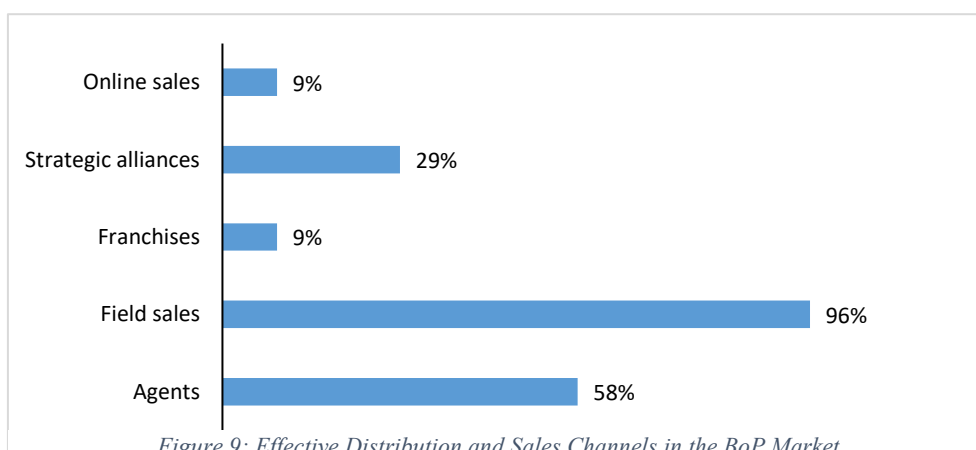


Figure 9: Effective Distribution and Sales Channels in the BoP Market

Majority of the multinational companies use field sales representatives to cater the consumers at the bottom of the pyramid. This helps the business to manage and operate the supply chain activities actively and effectively. From the graph, it is evident that 96% of the multinational companies consider field force sales as efficient channel to reach the consumers at the bottom of the pyramid. However, the agents of the multinational companies are effective in distributing and selling the products at the bottom of the pyramid. Hence, 58% of the respondents consider agent as the effective player in distribution and sales of the multinational companies' products and services. However, the multinational companies also do strategic alliance, provide franchise at the remote areas to distribute and sell the products to the consumers at the bottom of the pyramid.

4.5.2 Understanding the Consumers Priority at the Bottom of the Pyramid

Multinational companies invest millions over the year to understand and build the market globally. Currently, one of the prime concerns of the multinational companies to cater the billions of people those who live below the poverty line or those who do not have access to avail the necessary commodities quickly. Hence, it is very important for the companies to understand the priority of the consumers at the bottom of the pyramid and design an efficient supply chain model to tap into the bottom of the pyramid market.

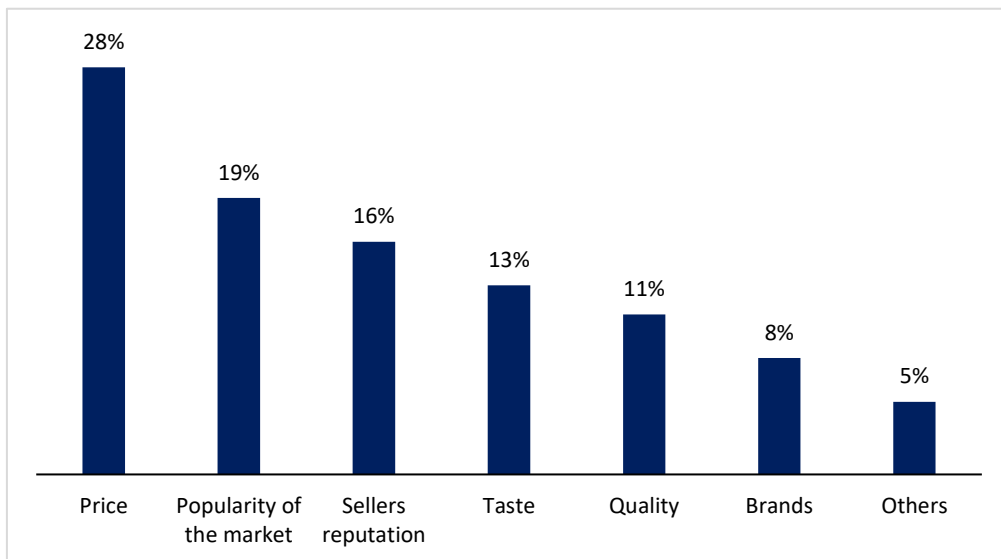


Figure 10: Consumers Priority Rank in the BoP Market

The researcher of the has core intention to understand the underlying factors that become the challenge for the multinational company while ensuring the effectiveness of the supply chain management (SCM). Hence, the researcher has asked the respondents from the multinational companies to rank the priorities of the bottom of the pyramid consumers so that the researcher can assess the perception of the consumers from different point of view. From the graph, it is

evident that 28% of the respondents have ranked price as the first priority of the bottom of the pyramid market consumers. One of the respondents from supply chain department has stated that bottom of the pyramid consumers prioritize price most hence, supply chain activities at the bottom of the pyramid market has become very critical to make effective. Moreover, the consumers at the BoP market prioritize popularity of the products in the market. Hence, 19% of the respondents has ranked popularity of the products in the market in the second position. Consecutively, seller's reputation, taste, quality, and brands come to the list from third to seventh priority. This indicates that people at the bottom of the pyramid do not prioritize the brand and the quality rather the price and the popularity of the products are most important. One of the respondents from sales department has mentioned that this is the core problem of selling products at the bottom of the pyramid. Because, the consumers do not understand the quality and the brand value of the products and the multinational companies cannot compromise the quality of the products for certain category of the consumers. Besides, the product cost increases due to the limitation of transportation facilities and the retailers are not able to sell the products at a very low margin. Hence, the multinational companies are failing miserably while reaching to the bottom of the pyramid keeping the price equilibrium. Thus, it can be understood from the results that the supply chain activities are very challenging due the priority nature of the consumers.

4.5.3 Resources That Play a Vital Role in Strengthening Supply Chain at the BoP Market

Supply chain effectiveness mostly depends of the resources that are associated with the business. Businesses use different types of resources to make the business activities successful for doing sustainable business. Generally, supply chain activities of a business can be categorised into different segments namely planning, sourcing, production, inventory management, storage, transportation and so on. However, all the activities mentioned are the general supply chain activities of any business and these are also crucial for strengthening supply chain at the bottom of the pyramid market. But the bottom of the pyramid market challenges is mostly related with the additional cost associated with the additional supply chain activities for the bottom of the pyramid. Hence, the researcher has sought to identify the key resources from the opinion of the respondents of the multinational companies. Therefore, the researcher has put statements to the respondents and collected their opinion about the resources using 5 points Likert scale parameters where 1 indicates strongly disagree and 5 indicates strongly agree.

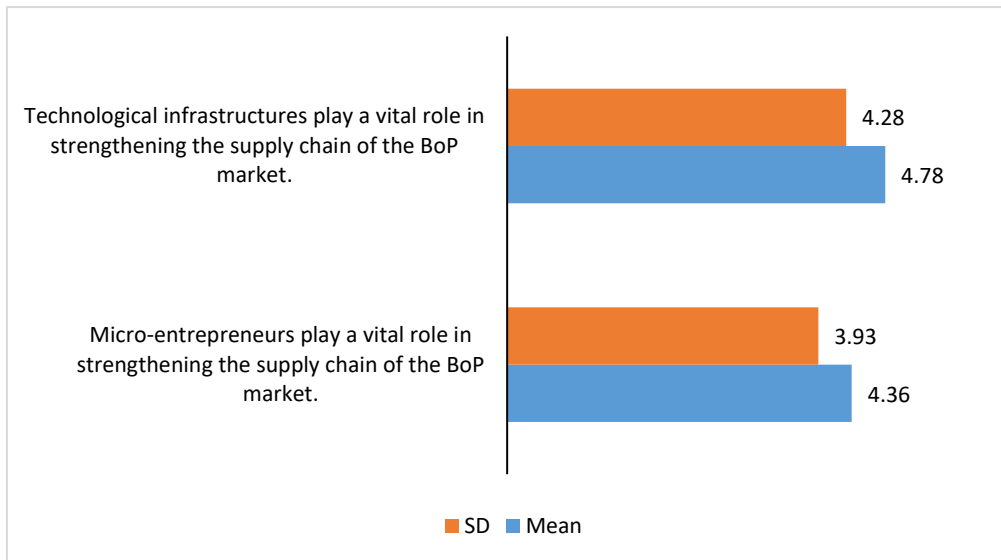


Figure 11: Resources that Play a Vital role for Strengthening Supply Chain Activities at the BoP Market

To understand the key resources the researcher has put two generic statements in front of the respondents and collected information. One of the statements is regarding the involvement of the human resource at the bottom of the pyramid market and another statement is about the technology infrastructure of the organizations. The first statement carries mean score of 4.36 with standard deviation of 3.93. This indicates that majority of respondents from the multinational companies agree to the point that micro-entrepreneurs play a vital role in strengthening the supply chain of the BoP market. One of the respondents has mentioned that, *“We generally distribute products at the major cities of the country. From the districts it goes to the sub-districts for distribution. But after sub-districts, we cannot further distribute products due to the distribution challenges and associated costs. The micro-entrepreneurs help us in this regard reaching the BoP consumers.”* The micro-entrepreneurs generally purchase products from different dealers and distribute that to the remote areas keeping certain margin. Hence, multinational companies should focus on increasing the number of micro-entrepreneurs so that they distribute on behalf of the company.

From the graph it is evident that technological infrastructures play a vital role in strengthening the supply chain of the BoP market as it carries mean score of 4.78 with standard deviation of 4.28. This indicates that majority of the respondents from the multinational companies strongly agree to the point. One of the respondents from pharmaceuticals company has mentioned that due to the technological upgradation, reaching bottom of the pyramid consumers has become easier and the supply chain activities have become more efficient. In the last decade, technology has tremendously improved and the distribution techniques and process have become more

sophisticated. Multinational companies can now use digital order collection and processing system which has improved the distribution process and saved times of the companies. Moreover, technology has improved the transportation system as well. Hence, companies can reach to remote areas using updated vehicles. The companies can now use automated inventory management system that has not only increase the efficiency of the supply chain management but also improved the efficiency of the overall organization.

4.6 Supply Chain Challenges in the BoP Market

Though the technology and infrastructure have improved significantly over the time but the supply chain challenges in the bottom of the pyramid are unimaginable. Hence, the researcher of the study has undertaken issue to conduct the study and explore the challenges associated in supply chain management for the bottom of the pyramid market. In this section of the study the researcher will try to reflect the supply chain challenges from the perspective of the multinational companies.

4.6.1 Capacity of the Current Information System as a Supply Chain Challenge

Information system plays a big role in making the supply chain management effective. Free flow of information without any kind of interruption is a prerequisite to make the process of supply efficient and effective. However, the limitation of the information has made supply chain management process critical and challenging. Though the technology infrastructure and communication status have been updated but only for the major cities of the country. Hence, multinational companies are facing a lot of challenges while making the supply chain management process effective and efficient. Therefore, the researcher of the study has asked the respondents to mention the whether the current information system is enough to fulfil the requirement of the supply chain challenges and eradicate challenges that hinder free flow of information.

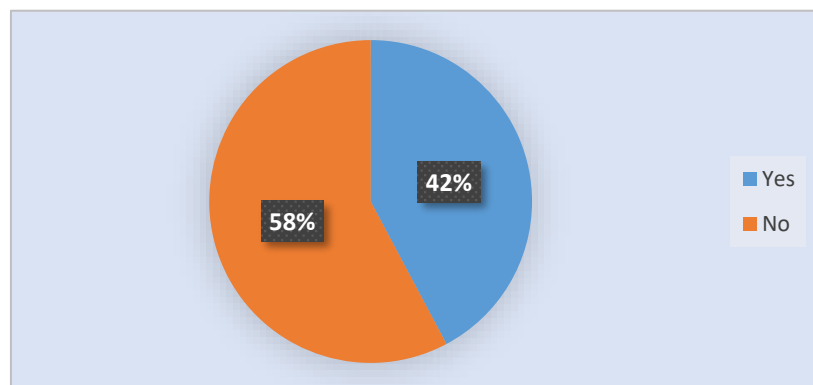


Figure 12: Perception about the Capacity of the Current Information System to Satisfy the Communication Requirements in the BoP

From the graph it is evident that 58% of the respondent have mentioned that current capacity of the information system is not adequate enough to meet the supply chain challenges. One of the respondents has mentioned that technological infrastructure of Bangladesh has significantly improved in the last few years but proper channel and linkage has not established yet. The internet connection is not available to everyone as the cost of internet package is higher. Hence, people of the remote are not being able to reach the supplier timely. Moreover, digital order collection and processing cannot be done at the remote areas due to the technological barriers. The transportation of the country is not properly linked specially with the northern and southern territory of Bangladesh which remarkably slows down the supply chain activities conducted by multinational companies.

4.6.2 Information System Linkage as a Supply Chain Challenge

Information system linkage is one of the core supply chain challenges. The multinational companies require adequate information timely so that the production can dispatch the products as required by the buyer within the shortest possible time. But the channel cannot be established as multinational companies do not sell directly to the bottom of the pyramid market consumers due the constraints of place, time and necessary human resources. Hence, they take support from the agent and remote area distributors to mitigate the gaps. But those distributors are not dedicated distributors of a particular multinational companies. Therefore, the MNCs are not able to develop linkage with the retailers of the remote areas for timely flow of information.

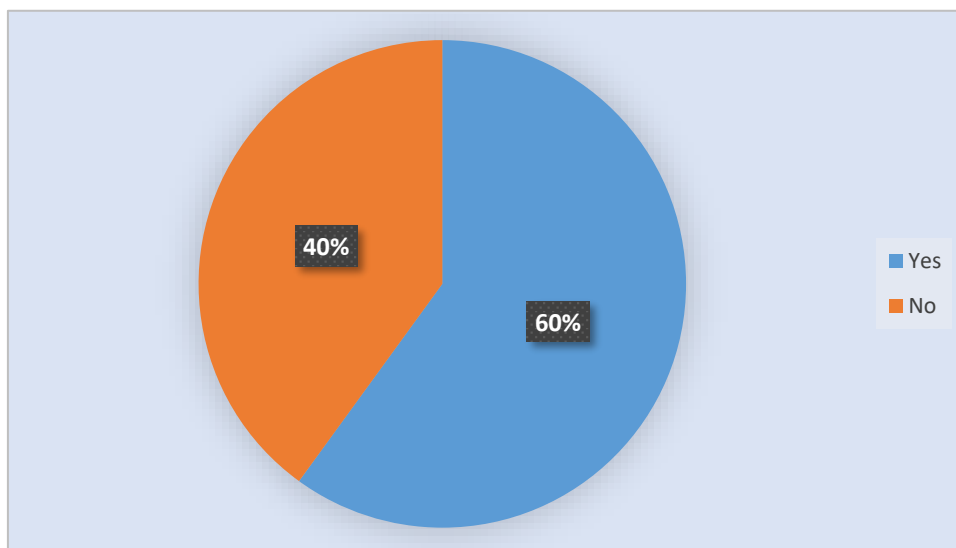


Figure 13: Importance of Information Linkage to Improve the Distribution Efficiency for the BoP Market

From the graph it is evident that 60% of the respondents from the multinational companies consider information system linkage as an important factor for improving the supply chain

effectiveness. On the other hand, 40% of the respondents from the multinational companies have mentioned that information system linkage has not been issue so far. One of the respondents from the multinational company has mentioned that they have smooth information linkage with the district level distributors and the retailers but they face challenge building relationship with the rural and remote area retailers and distributors. Hence, the decision making of the business gets strongly affected which ultimately impact the production and operation of the business. As a result, the supply chain activities of the business get slowed down which reduce the effectiveness of the process.

4.6.3 Linkage between the Distributors and the Consumers as a Supply Chain Challenge

The multinational companies mostly deal with the data they receive from the distributors and retailers. Hence, the relationship between with distributors and retailers is very important. Multinational companies have invested significantly in the last decade to improve the dealer and retailer relationship. Besides, they have built strong relationship with consumers as well through different modern trade activities. However, such relationship cannot be built at the bottom of the pyramid as the technology and infrastructure at the bottom of the pyramid are adequate enough to fulfil the requirement. Hence, the researcher has asked the respondents from the multinational companies to understand the importance of the linkage of information system between the retailers and customers in the bottom of the pyramid.

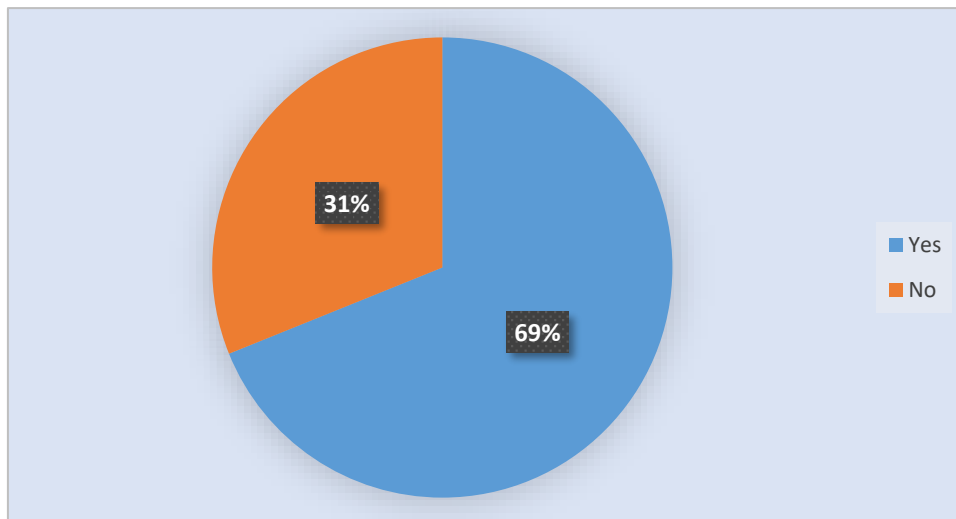


Figure 14: Importance of Linkage of Information System between Retailers and Customers in the BoP Market

From the graph it is evident that 69% of the respondents from the multinational companies have mentioned that information system linkage with the retailers and the customers is very important as the business gets the idea about the preference of the consumers and design strategies accordingly to cater the consumers. One of the respondents from the FMCG industry

has mentioned that in modern cities they get adequate information about the consumers taste and brand preference which help them a lot to design strategies and products to cater the consumers. But in bottom of the pyramid it is not possible for the multinational companies to design and develop products considering the taste preference of the customers as data collection and extraction is very challenging at the bottom of the pyramid market. However, multinational companies are trying to conduct market research so that they can get adequate information about the bottom of the pyramid market consumers but the research in BoP market is very challenging, costly, and requires huge time.

4.7 Supply Chain Activities Taken by the MNCs and Their Perception towards the BoP Market in Bangladesh

To eradicate the challenge at the bottom of the pyramid market multinational companies in Bangladesh taken many measures. They have invested huge money to make the bottom of the pyramid market efficient for smoothening the supply chain activities. Besides, they have put effort in establishing effective communication channel and strong information system linkage with the bottom of the pyramid market. Multinational companies have significant time and effort to make the management flexible and adaptive to the bottom of the pyramid market.

4.7.1 Initiatives Taken to Improve Distribution Performance

The distribution management has been the core challenge of the multinational companies in the bottom of the pyramid market. Efficient distribution removes the majority obstacles of the supply chain practices of the multinational companies. Hence, multinational companies in Bangladesh have undertaken several activities to improve the performance of the distribution activities at the bottom of the pyramid market.

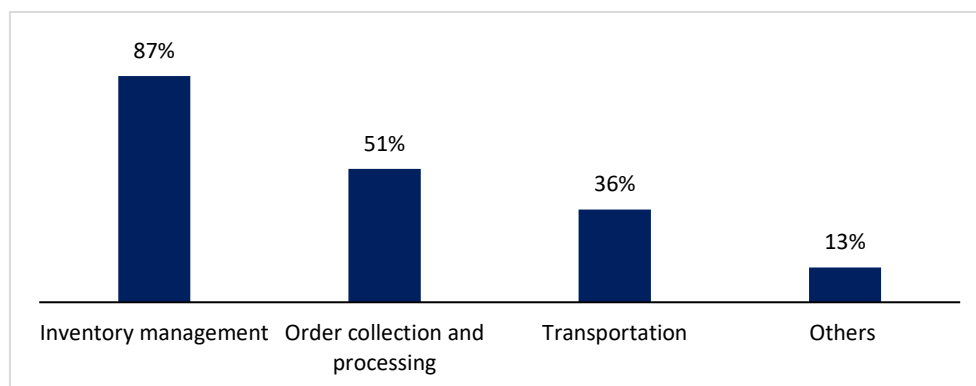


Figure 15: Initiatives Taken by MNCs to Ensure the Efficiency in the BoP Market

Among many activities multinational companies are putting much effort in improving the inventory management in the bottom of the pyramid market. 87% of the respondents have

mentioned that they are taking different strategies to improve the inventory management so that they can count the closing stock properly and make production decision. Besides, ending inventory helps the businesses to track the sales and determine future production requirements. They are also taking initiatives to improve the order collection and processing. 51% of the respondents have mentioned that they are trying to digitize the order collection and processing and expecting to improve the capacity within 2025. Moreover, the multinational companies are putting effort to improve the transportation by developing partnership so that can send the products at the destination without any interruption and facing problems.

4.7.2 Supply Chain Flexibility

Supply chain flexibility is one of the core requirements of the multinational companies to develop the mentality to cater the population at the bottom of the pyramid market. However, this has been a serious obstacle to the many multinational companies and it can not be developed overnight. Hence, the researcher has sought to know the flexibility of the supply chain activities of the multinational companies.

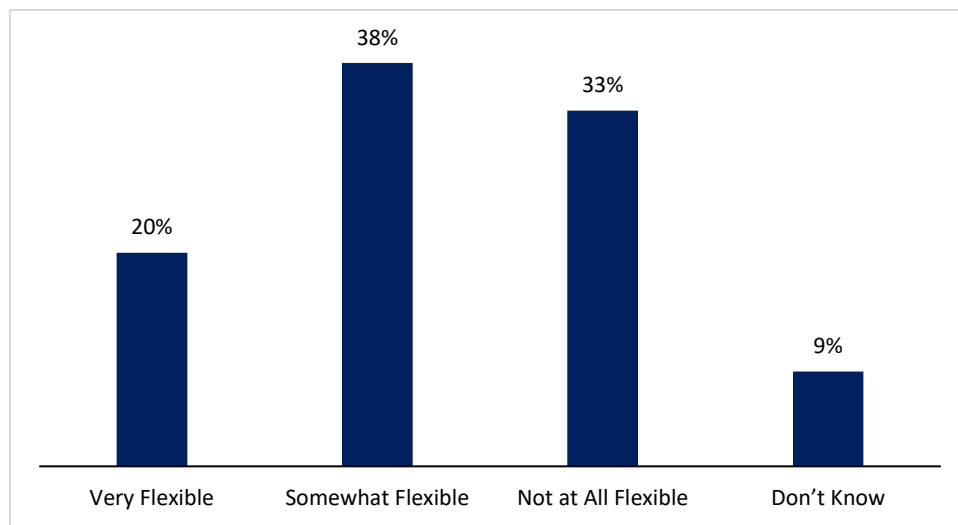


Figure 16: Flexibility of the Supply Chain of the MNCs to Cater BoP Market

The study result shows that supply chain management of the multinational companies are not flexible enough to cater the bottom of the pyramid market. 38% of the respondents have mentioned that the supply chain activities of their organizations are somewhat flexible and 33% of the respondents have mentioned that their supply chain activities are not at all flexible. This indicates that the supply chain activities of the multinational companies need significant improvement to cater the bottom of the pyramid market dedicatedly. However, 20% of the respondents have mentioned that the supply chain activities are very flexible and they are taking the market opportunity quite seriously.

4.7.3 Perception about the Distributors and the Consumers

The perception of the multinational companies towards the bottom of the pyramid market consumers are mixed as the consumers need and preferences change over time. In addition, the business activities of the multinational companies also change with the trend and time. However, the businesses have certain constant perception and the researcher of the study has tried capture those perception and reflect the results for further improvement of the bottom of the pyramid market supply chain activities.

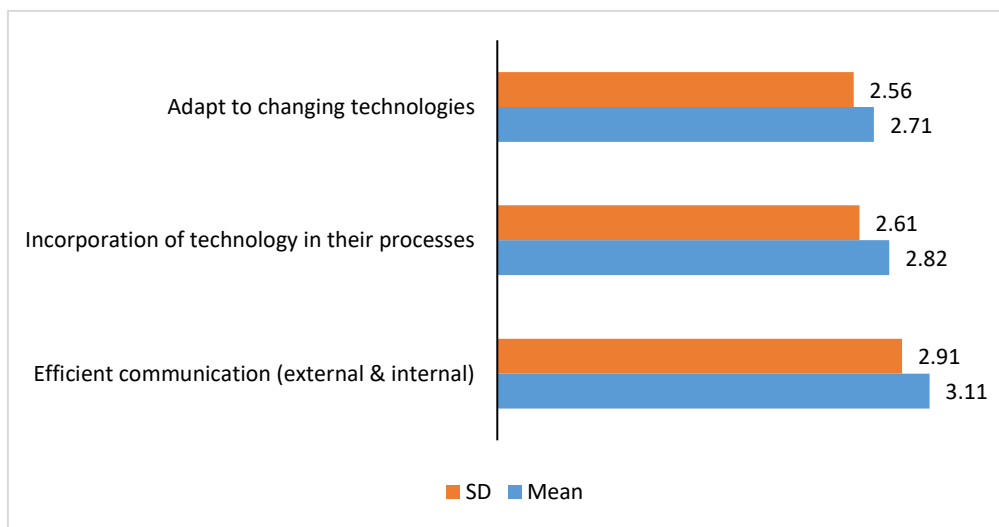


Figure 17: Willingness to Adopt Newness by the Consumers and Distributors in the BoP

The distributors of the multinational companies and the consumers at the bottom of the pyramid market has limitation of knowledge and education. Hence, they are not ready to adopt any changes to cope in the market. Besides, they lack communication skills which impact the supply chain activities directly. From the graph it is evident that efficient communication carries mean score of 3.11 with standard deviation of 2.91. This indicates that majority of the multinational companies are unsure about their communication effectiveness. Moreover, incorporation of information technology in the supply chain process carries mean score of 2.82 with standard deviation of 2.61. This indicates that the distributors and consumers at the bottom of the pyramid are not ready to adopt technology in their process according to the perception of the respondents from the multinational companies. On the other hand, adapt to the changing technologies carries lower mean score, which is 2.71 with standard deviation of 2.56. The results indicate that the respondents disagree that the BoP market consumers and the distributors adopt new technologies for improving their purchasing and distribution activities.

4.7.4 Measures Taken to Eradicate Supply Chain Challenges

Despite challenges, multinational companies are continuously pushing hard to eradicate the supply chain challenges so that they perform the business activities and capture the market in the bottom of the pyramid market. Hence, the researcher of the study has asked the respondents from the multinational companies to mention the measures that have taken so far to eradicate the supply chain challenges at the bottom of the pyramid market.

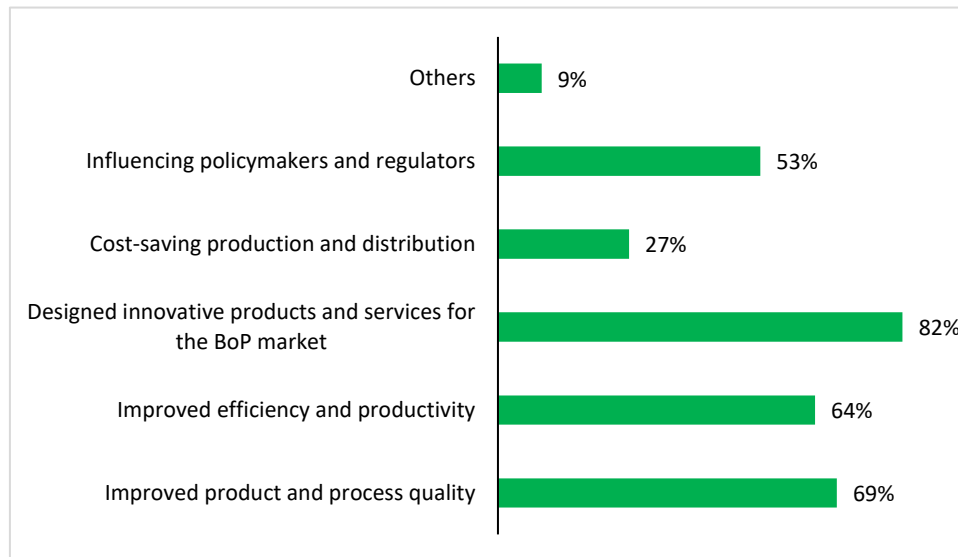


Figure 18: Measures Taken by the MNCs to Mitigate the Supply Chain Challenges in the BoP Market

From the graph it is evident that 69% of the multinational companies have improved the products and process quality to capture the market share at the BoP market. One of the respondents have mentioned that they have designed new products for the BoP consumers so that they can avail the better-quality products at lower price. But the quantity of the products has also reduced. Besides, the multinational companies have been pushing hard to improve the efficiency and productivity of the business. Interestingly, 82% of the respondents have mentioned that they are designing innovative products and services for the BoP market consumers and trying to achieve efficiency in production and distribution. However, 27% of the respondents have mentioned that they have already achieved cost-saving production and distribution capacity. Besides, 53% of the respondents from the multinational companies have mentioned that they are influencing the policymakers providing subsidies to the rural distributors and invest more on developing the market so that the multinational companies can perform the business activities at the bottom of the pyramid market without any interruption in terms of supply chain management.

Chapter 5

Discussion

BoP market has huge potential and early movers with a feasible solution can capture the ultimate benefit by offering new solutions, establishing efficient delivery channels, and building loyal consumers and producers base. Moreover, the MNCs can own the largest pie of the market share and possess greater valuable market insights. From the study it is evident that many multinational companies are taking initiatives to become the early movers to capture benefits from the BoP market. It has been found that 20% of company's management are very flexible welcoming to face the supply chain challenges exist in the bottom of the pyramid market.

Generating insights from the BoP market and redesigning the business model is very critical, challenging, and expensive. Besides, the underlying differences and diversity among the population play a big role as development constraints while addressing the issues in the BoP market. The study results show that information about the customers and retailers at the bottom of the pyramid are very challenging to get. One of the respondents from the multinational companies has mentioned that they have tried reach directly to the consumers. But the addition cost involvement in the process increase the price of the products which ultimately creates more challenge to cater the BoP market consumers. However, it is found that, 82% of the companies are designing and developing innovative products to cater the bottom of the pyramid market consumers and fulfil their needs.

The multinational companies mostly deal with the data they receive from the distributors and retailers. Hence, the relationship between with distributors and retailers is very important. Multinational companies have invested significantly in the last decade to improve the dealer and retailer relationship. Besides, they have built strong relationship with consumers as well through different modern trade activities. However, such relationship cannot be built at the bottom of the pyramid as the technology and infrastructure at the bottom of the pyramid are adequate enough to fulfil the requirement.

The consumers at the BoP market prioritize popularity of the products in the market. Moreover, People at the bottom of the pyramid do not prioritize the brand and the quality rather the price and the popularity of the products are most important. One of the respondents from sales department has mentioned that this is the core problem of selling products at the bottom of the

pyramid. Because, the consumers do not understand the quality and the brand value of the products and the multinational companies cannot compromise the quality of the products for certain category of the consumers. Besides, the product cost increases due to the limitation of transportation facilities and the retailers are not able to sell the products at a very low margin. Hence, the multinational companies are failing miserably while reaching to the bottom of the pyramid keeping the price equilibrium. Thus, it can be understood from the results that the supply chain activities are very challenging due the priority nature of the consumers.

Multinational companies have invested significantly in the last decade to improve the dealer and retailer relationship. Besides, they have built strong relationship with consumers as well through different modern trade activities. However, such relationship cannot be built at the bottom of the pyramid as the technology and infrastructure at the bottom of the pyramid are adequate enough to fulfil the requirement.

The limitation of the information has made supply chain management process critical and challenging. Though the technology infrastructure and communication status have been updated but only for the major cities of the country. Hence, multinational companies are facing a lot of challenges while making the supply chain management process effective and efficient. Therefore, the researcher of the study has asked the respondents to mention the whether the current information system is enough to fulfil the requirement of the supply chain challenges and eradicate challenges that hinder free flow of information. Despite supply chain challenges, the multinational companies are continuously pushing hard to eradicate the supply chain challenges so that they perform the business activities and capture the market in the bottom of the pyramid market.

Chapter 6

Conclusion and Recommendation

6.1 Introduction

Throughout the study, the researcher has analyzed the supply chain challenges, bottom of the pyramid market consumers' perception and behavior, opportunities available in the bottom of the pyramid, and the measures taken by the multinational companies to overcome the supply chain challenges in the bottom of the pyramid market. In this chapter of the study, the researcher concludes the study results with recommendation, future research opportunities along with mentioning the limitation of the study.

6.2 Fulfillment of the Research Objectives

In order to carry out the research, the researcher has developed four broad objectives and conducted the research seeking answers.

The first objective of the study is to understand the BoP market opportunities in Bangladesh for MNCs. Throughout the research, the researcher has explored the supply chain challenges faced by multinational companies and seek to know the reason behind this. The study result shows the perception of the consumers at the BoP market which very useful for the multinational companies before entering to the market. Moreover, the study result shows the consumers core needs and preferences which are very useful information for designing products for the BoP market consumers. Besides, the market size and the consumers priorities have been shown using numbers. All the information that has been reflected in the study are very much useful for the multinational companies to understand the opportunities available in the bottom of the pyramid market.

The second objective of the study is to investigate the challenges in logistics and supply chain performance of the MNCs in the Bop market. From the findings, the following supply challenges has been come to the light namely weaknesses of the current information system, limitation of the supply chain information linkages, and information system linkage between the consumers and the retailers. Besides, the weak organizational infrastructure, cash poor consumers, investment constraints, products' pricing and packaging, geographical and economic status of the country, and the awareness among the BoP market consumers have been shown with graph to understand the challenges in logistics and supply chain performance of the multinational companies in the bottom of the pyramid market in Bangladesh.

The second objective of the study is to understand the current industry practice to address the supply chain challenges in the BoP market by the MNCs. From the findings, it is found that currently the multinational companies are not directly tapping the BoP market. Rather they are making partnership with the local market distributors to sell the products. Moreover, they are now introducing field sales supervisors, and agents in the bottom of the pyramid market so that they can get information about the market directly and build a strong position in the market. To make the supply chain effective and eradicate challenges, the multinational companies are now designing innovative products, improving the efficiency and productivity, starting cost-saving production and distribution, and influencing policy makers and regulators.

The fourth objective of the study is to perceive the benefits of effective supply chain management in the BoP market. From the study findings, it is evident that effective supply chain would have helped the multinational companies to reach closer to the consumers and understand the market in a better way. Moreover, the distribution cost of the business would have significantly reduced which would ultimately increase opportunity for the business to generate extra margin. Besides, the monitoring and controlling activities of the business would become easier, and the production and distribution activities of the business become more efficient.

6.3 Limitations of the Study

The time and fund constraints have been the major limitations of the study. Therefore, the sample size of the study has been narrowed down to 45. Besides, the respondents from every department of the businesses cannot be selected. Hence, better insights about the market couldn't be captured. Lastly, due to the coronavirus situation, the researcher couldn't physically conduct the KIIs which might have resulted miscommunication and misinterpretation of the information perceived.

6.4 Conclusion

Supply chain management has always been the core part of the business activities. This solely depends on the organizational efficiency, flexibility, responsiveness and information system of the organization. The concept of the bottom of the pyramid market is very old but the practice to reach market and the consumers is very new from the perspective of Bangladesh. Though the BoP market consumers and market are very challenging to understand but the multinational companies pushing hard to harness the benefits from the market. They are taking measures to

eradicate challenges in the bottom of the pyramid and continuously redesigning the strategies so that they can build an effective model to reach maximum number of BoP market consumers. The researcher of the study expects that findings from the study will add value to the multinational companies supply chain practices and provides useful insights to overcome challenges by assisting them to tap effectively to the bottom of the pyramid market for achieving greater business opportunities.

6.5 Recommendations

From the findings, analysis and discussion the researcher of the study recommends that-

- The multinational companies should take measures to develop efficient channel for free flow of information so that the supply chain activities become more effective.
- The multinational companies should invest more in technology infrastructure so that they can develop digital inventory management system, order processing and collection system.
- The multinational companies should take measures so that the management of the businesses become more flexible and accept the supply chain obstacles at bottom of the pyramid as challenge.
- The multinational companies should invest in market research so that they can understand the BoP market dynamics more closely, and design and innovate products accordingly.

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Appendix

To conduct a survey to accomplish an academic research study, **Dipanjan Datta** needs to collect necessary information and relevant data from you/your organization to support the study. Your cooperation will be highly appreciated.

I hereby, promise you to keep your information confidential. To help protect your confidentiality, the interview will not contain information that will personally identify you. The results of this study will be used for scholarly purposes only and may be shared with the supervisor of the study.

Number	Questions	Coding
1	Name of the company	
2	Main products line	
3	Which department of the company are you from?	1. Supply chain management 2. Marketing 3. Operations 4. Finance 5. Others (please specify)
4	Who are the main consumers of the BoP market and what are their demand?	
5	Please indicate how strongly you agree or disagree with the following supply chain challenges in the BoP market- 1. Cash poor consumers 2. Geographic, economic, and cultural diversity and distance 3. Weak organizational infrastructure 4. Investment constraints 5. Transportation 6. Product prices and packaging 7. Limited products awareness among the distributors and consumers	1. Strongly Disagree 2. Disagree 3. Neither agree nor disagree 4. Agree 5. Strongly agree

6	<p>Please indicate how strongly you agree or disagree with the following statements-</p> <ol style="list-style-type: none"> 1. Brands are important for the BoP market consumers 2. BoP market consumers are loyal to the brands 3. The nationality of the brands influence the choice of the BoP market consumers 4. BoP market consumers are willing to purchase expensive products 	<ol style="list-style-type: none"> 1. Strongly Disagree 2. Disagree 3. Neither agree nor disagree 4. Agree 5. Strongly agree
7	<p>How do you inform BoP market consumers to purchase products?</p> <p>(Multiple answers apply)</p>	<ol style="list-style-type: none"> 1. Television advertisement 2. Radio advertisement 3. Advertisement posters 4. Discussion with my friends 5. Online advertisement 6. Others (Please specify)
8	<p>Do you think BoP market consumers prioritize the quality of the packaging?</p>	<ol style="list-style-type: none"> 1. No 2. Yes
9	<p>Do the BoP market consumers read the information written on the packaging?</p>	<ol style="list-style-type: none"> 1. No 2. Yes
10	<p>Do you think the online market or mobile forums are useful media to reach the BoP market?</p>	<ol style="list-style-type: none"> 1. No 2. Yes
11	<p>What is the efficient sales channel for tapping the BoP market?</p> <p>(Multiple answers apply)</p>	<ol style="list-style-type: none"> 1. Agents 2. Field sales 3. Franchises 4. Strategic alliances 5. Online sales
12	<p>What are the most important factors BoP market consumers consider while purchasing products?</p>	<ol style="list-style-type: none"> 1. Price 2. Quality 3. Brands

	(Rank them from top 1 to 7)	<ul style="list-style-type: none"> 4. Taste 5. Sellers reputation 6. Popularity of the market 7. Others (Please specify)
13	<p>Please indicate how strongly you agree or disagree with the following statements-</p> <ul style="list-style-type: none"> 1. Micro-entrepreneurs play a vital role in strengthening the supply chain of the BoP market. 2. Technological infrastructures play a vital role in strengthening the supply chain of the BoP market. 	<ul style="list-style-type: none"> 1. Strongly Disagree 2. Disagree 3. Neither agree nor disagree 4. Agree 5. Strongly agree
14	Is your current Information system enough to satisfy the supply chain communications requirements of the BoP market?	<ul style="list-style-type: none"> 1. No 2. Yes
15	Do adequate information systems linkages exist within your supply chain to improve the distribution efficiency for the BoP market?	<ul style="list-style-type: none"> 1. No 2. Yes
16	Are the information systems linked to the retailers and customers at the BoP market?	<ul style="list-style-type: none"> 1. No 2. Yes
17	<p>Do you maintain the following activities nationally to ensure the efficiency of the distribution at the BoP market?</p> <p>(Multiple answers apply)</p>	<ul style="list-style-type: none"> 1. Inventory management 2. Order collection and processing 3. Transportation 4. Others (Please specify)
18	<p>Please indicate how strongly you agree or disagree about your distributors' and customers' adoption of the following in the process of supplying goods & services along the supply chain?</p> <ul style="list-style-type: none"> 1. Efficient communication (external & internal) 2. Incorporation of technology in their processes 3. Adapt to changing technologies 	<ul style="list-style-type: none"> 1. Strongly Disagree 2. Disagree 3. Neither agree nor disagree 4. Agree 5. Strongly agree

19	In your opinion, what measures can be undertaken to improve the supply chain management activities in the BoP market?	Text
20	How flexible is your supply chain management to accept the challenges in the BoP market and identify solutions?	<ol style="list-style-type: none"> 1. Very Flexible 2. Somewhat Flexible 3. Not at All Flexible 4. Don't Know
21	<p>What measures so far your organization have taken to mitigate the supply chain challenges in the BoP market?</p> <p>(Multiple answers apply)</p>	<ol style="list-style-type: none"> 1. Improved product and process quality 2. Improved efficiency and productivity 3. Designed innovative products and services for the BoP market 4. Cost-saving production and distribution 5. Influencing policymakers and regulators 6. Others (Please specify)
22	Please share your experience about the BoP market operation and future plan of the business	
23	Please share if you have any opinion or recommendation regarding the strategies to overcome the supply chain challenges in the BoP market	