ST. MARY'S UNIVERSITY SCHOOL OF GRADUATE STUDIES

COLLEGE OF BUSINESS AND ECONOMICS DEPARTMENT OF MARKETING MANAGEMENT

THE EFFECT OF PHYSICAL DISTRIBUTION SERVICE ON CUSTOMERS SATISFACTION (THE CASE OF AMBO MINERRAL WATER BOLE SUB CITY)

BY:

SELOME DENEKE

ADVISOR:

Dr. GASHAW TIBEBE

ADDIS ABABA, ETHIOPIA

JUNE, 2020

St. Mary's University

School of Graduate Studies Marketing Management

MA Program

THE EFFECT OF PHYSICAL DISTRIBUTION SERVICE ON CUSTOMERS SATISFACTION (THE CASE OF AMBO MINERRAL WATER BOLE SUB

By:

SELOME DENEKE

ADVISOR:

Dr. GASHAW TIBEBE

THESIS SUBMITTED TO SCHOOL OF GRADUATE STUDIES OF ST. MARY'S UNIVERSITY IN PARTIAL FULFILLMENTS OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS OF ART IN MARKETING MANAGEMNET

St. Marry University College

School of Graduate Studies-MA Program

THE EFFECT OF PHYSICAL DISTRIBUTION SERVICE ON CUSTOMERS SATISFACTION (THE CASE OF AMBO MINERRAL WATER BOLE SUB CITY

By:

SELOME DENEKE

APPROVED BY BOARD OF EXAMINERS

_____	_____
Dean, Graduate Studies	Signature and Date
_____	_____
Thesis Advisor	Signature and Date
_____	_____
Internal Examiner	Signature and Date
_____	_____
External Examiner	Signature and Date

DECLARATION

I, the undersigned graduate student, hereby declare that this thesis is my original work, and that all sources of the materials used for this thesis have been duly acknowledged. This research study is being submitted in partial fulfillment of the requirement for Master of Arts degree in Marketing Management.

Selome Deneke

_____

Signature & Date

ENDORSEMENT

This is to certify that Selome Deneke carried out her thesis on “THE EFFECT OF PHYSICAL DISTRIBUTION SERVICE ON CUSTOMERS SATISFACTION (THE CASE OF AMBO MINERRAL WATER BOLE SUB CITY And Submitted in Partial Fulfillment of the Requirements for The Award of the Degree of Masters of Art in Marketing Management at St. Marry University with My Approval as University Advisor.

Signature: _____ ***Date:*** _____

Gashaw Tibebe – Advisor

Acknowledgement

First and foremost, I would like to thank the Almighty God, for the gift of life and love and for knowing me better than I know myself. I wish to express my sincere thanks and gratitude to my advisor **Dr**. **GASHAW TIBEBE** *for his excellence guidance, unrestricted and friendly support to make this project real.*

Last but not the least, I would also like to thank my staff and my classmates who share me their idea and provided me moral and valuable information related to the research project.

THANK YOU ALL!!!

SELOME DENEKE

Contents

APPROVED BY BOARD OF EXAMINERS i

DECLARATION ii

ENDORSEMENT iii

Acknowledgement iv

ABSTRACT ix

CHAPTER ONE 1

INTRODUCTION 1

1.1 Background of the study 1

1.2 Statement of the Problem 4

1.3 Research Hypotheses 5

1.4 Objectives of the Study 6

1.4.1 General objective of the study 6

1.4.2 Specific Objectives of the Study 6

1.5 Significance of the Study 6

1.6 Scope of the Study 6

1.7 Limitation of the Study 7

1.8 Organization of the study 7

CHAPTER TWO 8

2. Review of Theories and Concepts 8

2.1 Definition of Physical Distribution 8

2.1.1 Role and Importance of Physical Distribution in Marketing Strategy 8

2.1.2 Customer service 9

2.1.3 Integration of marketing and logistics Channels 9

2.1.4 Physical Distribution Service. 10

2.1.5 Physical Distribution Service versus Customer Service 10

2.1.6 Physical Distribution Services Dimension 11

2.1.7 Customer Satisfaction 12

2.2 Review of Empirical Studies 13

2.3 Conceptual Framework and Hypothesis of the Study 14

2.3.1 Conceptual Frame work of the study 14

CHAPTER THREE 16

RESEARCH METHODOLOGY 16

3.1 Description of the Study Area 16
3.2 Research Approach 16
3.3 Research Design 17
3.4 Population and Sampling 17
3.4.1 Population of the study 17
3.4.2 Sample size and Sampling Techniques 18
3.5 Data Sources and Types 20
3.6 Validity of Instrument 21
3.7 Reliability of Instrument 21
3.8 Method of Data Presentation and Analysis 21
CHAPTER FOUR 23
DATA PRESENTATION AND ANALYSIS 23
4.1 Introduction 23
4.2 Questionnaire Analysis 23
4.2.1 Questionnaire Administration 23
4.2.2 Gender Distribution 24
4.2.3 Age Distribution of Respondents 24
4.2.4 Educational Qualification of Respondents 24
4.2.5 Staff Number of Years with the Company 25
4.2.6 Staff Positions in the Company 25
4.2.8 Business Categories of Customers 26
4.2.9 Frequency of product Supply to Customers 26
4.2.10 Need to be supplied with AMW Products more frequently 27
4.2.11 Stock-out Experienced by Customers 28
4.2.12 Frequency of Stock-out Experienced by Customers 29
4.2.13 Factors Responsible for Stock-outs Experienced by Customers. 29
4.2.14 Stock outs Experienced by AMW 30
4.2.15 Frequency of Stock-outs Experienced by AMW 31
4.2.16 Factors Responsible for Stock-outs Experienced by AMW 31
4.2.17. Analysis of Questions Related to Research Question # 1 (Section B) Research Question #1 32
4.2.18 Analysis of Questions Related to Research Question #2 48
4.2.19 Analysis of Questions Related to Research Question #3 49

4.2.10 Analysis of Questions Related to Research Question #4 50
4.2.11 Analysis of Questions Related to Research Question #5 50
4.2.12. Analysis of Questions Related to Research question #6 55
4.3 Test of Hypotheses 59
4.3.1 Test of Hypotheses One 59
4.3.2 Test of Hypothesis Two 61
4.3.3 Test of Hypothesis three 63
4.3.4 Test of Hypothesis four 65
4.3.5 Test of Hypothesis five 67
4.4 Discussion of Findings 69
4.5 Summary 72
CHAPTER FIVE 73
SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS 73
5.1. Introduction 73
5.2 Summary of Findings 73
5.3 Conclusion 75
5.4 Recommendations 75
Contribution to Knowledge 76
BIBLIOGRAPHY 77

LIST FIGURE AND TABLE

Table3. 1: Sample proportions of AWM Staff and Bulk Customers.....20

Figure 4. 1: Frequency of Product Supply to Customer......27
Figure 4. 2 Need to be supplied with AMW Products More Frequently. 28
Figure 4. 3: Stock outs Experienced by Customers. 29
Figure 4. 4: Factors Responsible for Stock outs Experienced by Customers. 30
Figure 4. 5: Stock outs Experienced by AMW. 31
Figure 4. 6: Factors Responsible for Stock Outs Experienced by AMW.....32
Figure 4. 7: Agreement/Disagreement that AMW Distribution Trucks/Vans are Adequate, Functional and well coordinated. (Transportation).....33
Figure 4. 8: Agreement/disagreement that AMW Warehouses are Adequate and Strategically Located. (Warehousing).....34
Figure 4. 9: Agreement/disagreement that AMW Maintains Adequate Inventory Size and mix. (Inventory Control).....35
Figure 4. 10: Agreement/disagreement that AMW has Reliable, Computerized, Online, Real Time Order Processing System. (Order Processing) 36
Figure 4. 11: Agreement/disagreement that The Assorted Products (Mix) are always in Stock. (Product availability) 37
Figure 4. 12: Agreement/disagreement that The Units Ordered are (100%) Supplied (Product availability) 38
Figure 4. 13: Agreement/disagreement that All Orders are (100%) Supplied (Product availability) Seventy two percent (72%) of the respondents accepted that all orders are (100%) supplied at AMW while twenty eight percent (28%) did not accept.....39
Figure 4. 14: Agreement/disagreement that Order Cycle Time is Right (PDS Timeliness).....40
Figure 4. 15: Extent of agreement/ disagreement that the Average Delivery Time is Reliable (PDS Timeliness).....41
Figure 4. 16: Extent of agreement/disagreement that the Percent Units Delivered in Specified Time Period is Consistent (PDS Timeliness) 42
Figure 4. 17: Agreement/disagreement that the Percent Units Received in acceptable condition is right (PDS Quality).....43
Figure 4. 18: Extent of agreement/disagreement that the Units that are supplied (100%) are Correct Units (PDS Quality) 44
Figure 4. 19: Extent of agreement /disagreement that the Units that are delivered (100%) are in Correct Quantity (PDS Quality).....45
Figure 4. 20: Extent of agreement /disagreement that AMW Order Polices are Flexible enough to Permit Timely Response to Changing Market Demands (PDS Flexibility).....46
Figure 4. 21: Extent of Agreement that AMW has Expedite and Substitute Capacity to Respond to Special Customer Request (PS Flexibility) 47
Figure 4. 22: Extent of agreement/disagreement that AMW Responds Timely to Special Requests or Unexpected Needs of Customers (PDS Flexibility) 48
Figure 4. 23: Competitive benchmarking showing opportunities for improving service when comparisons are made with customer requirements and the performance of key competitor.....58

ABSTRACT

The study investigated physical distribution and customer satisfaction in ambo mineral water Company (AMW) Plc in Addis Ababa. Companies in the Fast Moving Consumer Goods (FMCGs) sector, especially those in mineral water industry are facing increasingly fierce competition. As it becomes more difficult for the companies to compete on pure product level, creative ones are intensifying their physical distribution service activities to gain a competitive edge. Previous studies commonly focused on the activities of physical distribution service (PDS) without effectively integrating them into the marketing mix. This study offers an integrative framework for presenting PDS activities as a means of achieving higher levels of customer service (PD service) and ultimately customer satisfaction using conceptual customer service/satisfaction model. The main objective of the study is to evaluate the relationship between performance of physical distribution activities and PD service and ultimately evaluate the relationship between PD service and customer satisfaction. Understanding the relationships among the physical distribution variables and the relative importance of each of these variables to overall customer satisfaction will enhance marketer's ability to develop strategies that are more effective and improve performance goals. The study adopted the survey research design. Two hundred (200) persons comprising of commercial staff, distributors and major retailers randomly selected from a sampling frame of four hundred (400) participated in the study. The instrument used for data collection was structured questionnaire in a 5-point Likert scale. Cronbach alpha was used to determine the reliability of the two sets of questionnaire for the staff and customers of the company which gave values of 0.76 and 0.82 for staff and customers respectively. Frequency, percentage, means, standard deviation and Pearson correlation were used for data analysis. The study found out among others that there is a significant relationship between performance of physical distribution service activities (transportation, warehousing, inventory control and order processing) and physical distribution service (product availability, PDS timeliness, PDS quality, PDS flexibility). And it was also found out that Physical distribution service has significant relationship with overall customer satisfaction. The study then concludes that as performance of physical distribution service activities becomes more effective and efficient in the industry, it would lead to improvement of physical distribution service which will in turn transcend to overall customer satisfaction. It was recommended among others that companies should ensure effective and efficient performance of physical distribution service activities as it will lead to better physical distribution service which will finally lead to customer satisfaction and translate into competitive advantage for the company, perhaps using the "conceptual market-driven customer service standards model (The Customer Service Mirror)" developed in this study to set service standards.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

The aim of any business is to meet the need of customers and subsequently make money. Businesses that are good at satisfying customers‟ needs have the best chance to grow and prosper. Under such competitive business environment failing to do this means choosing not to survive. Among others, distribution is playing an important role in achieving such a goal in business.

Especially when we think of doing business in fast moving consumer goods (FMCG) this vital marketing mix, distribution, will be crucial. “Products which have a swift turnover and relatively low cost are known as fast moving consumer goods (FMCG). FMCG items are generally replaced within a year. It commonly includes a wide range of repeatedly purchased consumer products such as toiletries, soap, cosmetics, oral care products, shaving products and detergents, as well as other non-durables such as bulbs, batteries, paper products, and plastic goods. FMCG may also include pharmaceuticals, consumer electronics, packaged food products etc.” (Binal, n.d, p.1)

These days’ companies are considering such products as a great source of income. As large number of companies are looking this sector as a profitable venture, for sustaining their position and gain new market they have to bring something unique in their products or services. To this end therefore distribution network has a paramount importance and major variable in the marketing plans. In fact, for most companies to design a distribution model that is cost effective and meets the growing demand is truly a challenge.

Like any countries in the world one can also find companies in Ethiopia which are dealing with FMCG products. From international companies like Heineken, Nestlé, etc. and from the domestic once such companies as Arki Water, Aqua Addis Water, Richey Food Processing, Ambo Mineral Water Share Company etc. can be mentioned as examples.

Production is Uncompleted until the good get to the final consumers whom they are meant. A typical firm will deliver or discover that the consumer for its products are scattered abroad. The firm decision to distribute its products directly through own sales outlets or indirectly through marketing intermediaries such as wholesalers & retailers alone is not enough to the goods to the consumers. The firm has to ensure that the products are actually available or make available to the distribution at lets.

In order management of the flow of production from manufacturer to consumer with aim to achieve consumer satisfaction & goal of the firm, physical distribution must be properly channeled to this respect.

Physical distribution is just how companies store; handle more goods so that they will be available to consumers at the right time & place.

According to Philip Kotler, physical distribution "involves planning, implementing and controlling the physical flows of materials and final goods from place of production to the place of end use to satisfy buyers' needs."

According to Wendell M. Smith – "Physical distribution is the science of Business Logistics where by the proper amount of the right kind of product is made available at the place where demand for its exists. Viewed in this light, physical distribution is key link between manufacturing and demand creation.

The growth of competition, the raising of customers‟ expectations and the similarity of basic products that are offered make distribution system so important in determining the final demand for a product. As it becomes more difficult for companies in fast moving consumer goods (FMCG) sector, especially in soft drink industry, to compete on pure product level, creative ones are looking elsewhere for a competitive edge. An effective distribution system can give a company a significant competitive advantage (Schewe and Hiam, 1998).

For most firms, distribution system is a key decision for building a successful business. Many companies have built lasting competitive advantages through their choices of distribution systems, which are integrated into coherent and well-executed business models. An excellent distribution system is critical to a company's efficient and profitable performance. In addition,

companies with the highest customer retention rates earn the highest profits. (Mei Su Chen, 2009).

Weiss and Gershon (2002) noted that, distribution describes all the logistics involved in delivering a company's products or services to the right place, at the right time, for the lowest cost. In the unending efforts to realize these goals, the channel of distribution selected by a business play a vital role in this process. Well-chosen channel constitutes a significant competitive advantage, while poorly conceived or chosen channel can doom even a superior product or service to failure in the market. Effective distribution provides customers with convenience in the form of availability (what, where, when - the right product, at the right place, at the right time), access (customers' awareness of the availability and authorization to purchase), and support (e.g. pre-sales advice, sales promotion and merchandising, post-service repairs).
Physical distributions generally regarded as part of a general logistics concept, which also includes marketing customer service (Mentzer, Flint & Hult, 2001). Customer Satisfaction has been a central concept in marketing literature and is an important goal of all business activities. Today, companies face their toughest competition, because they move from a product and sales philosophy to a marketing philosophy, which gives a company a better chance of outperforming competition (Kotler, 2000). Overall customer satisfaction translates to more profits for companies and market share increase. According to Hansemark and Albinsson (2004) “satisfaction is an overall customer attitude towards a service provider, or an emotional reaction to the difference between what customers anticipate and what they receive, regarding the fulfillment of some need, goal or desire”. Customer satisfaction is the outcome felt by those that have experienced a company’s performance that has fulfilled their expectations (Angelova and Zekiri, 2011).

Customer attraction and satisfaction is highly influenced by the seller's physical distribution capabilities and decisions (Kotler 2006). Effective logistics requires proper management of the supply chain (Boone and Kurtz,2004). Uncoordinated physical distribution is expensive. Effective logistics management can lower costs, provide better customer service and customer satisfaction which translate into competitive advantage and profit for the company.

Measuring customer satisfaction with physical distribution service is a strategic activity by organization seeking to ensure its existence in the competitive environment because one key to customer repeat purchase is customer satisfaction with overall purchase and consumption experience. Physical distribution is not only a cost; it is also a potent tool in demand creation. Companies can attract additional customers by offering better services through physical distribution. Companies lose customers when they fail to supply goods on time.

The main purpose of this Proposal is to examine and assess the physical distribution services of Ambo Mineral Water S.C, Bole Sub city and its effect on customer satisfaction. Ambo Mineral Water is a brand of naturally-carbonated bottled mineral water, sourced from the springs in Ambo Senkele, near the town of Ambo in central Ethiopia. It is a popular drink in Ethiopia, and has been described as the "oldest modern mineral water "and Ethiopia's "oldest mineral water bottler. It has been bottled since 1930.

1.2 Statement of the Problem

It is clear that an excellent product is no longer sufficient, by itself, to retain customer loyalty. Sophisticated consumers expect the "whole package", which includes distribution service (availability of stock, reliable delivery (Kumar and Sharman, 1992)). Li and Lee (1994) find that in modeling competition between two otherwise equal firms, the one furnishing better service enjoys a larger market share and a price premium. A higher-quality service is thus presumed to lead to greater sales revenue.

One major challenge facing companies is that of attracting and retaining customers in a competitive environment. Companies can attract customers by offering better customer service through physical distribution system that is sufficiently sensitive and flexible to permit timely response to customer requirements and cost effective to ensure profit. A company's failure to provide desired level of customer service leads to customer dissatisfaction and loss of customers. The strategic importance of an effective and efficient Physical distribution system cannot be over-emphasized, especially in soft drink industry where brand loyalty is not strong, but

availability and price play major roles in determining the final demand for the products. *Ambo Mineral Water S.C.* use indirect distribution system through its Depots .The company engaged in the production and delivering the products to its Depots by its own Vehicles then the Depots distribute the product to the customers (Marketing and sales department of Ambo Mineral Water S.C.).

In spite of the use of Depots there are still instances of stock outs and there is a doubt on whether these (product availability, Physical distribution service timeliness, Physical distribution service quality and physical distribution service flexibility) challenges have not significantly affect customer's level of satisfaction.

This gap in the industry, therefore, entails the need to conduct a study investigating the effect of physical distribution service on customer satisfaction. This study will try to generate empirical evidences that will be a contribution to the literature regarding the relationship between the variables of the study. Besides, the study conducted in Ethiopia that tasted the effect of physical distribution service on customer satisfaction is very few.

Thus, the study will try to investigate the effect of Physical Distribution Service on customer satisfaction in *Ambo Mineral Water S.C., bole sub city.*

1.3 Research Hypotheses

$H0_1$ There is no significant relationship between performance of physical distribution activities and perceived physical distribution service.

$H0_2$ There is no significant relationship between product availability and overall customer satisfaction,

$H0_3$ There is no significant relationship between PDS timeliness and overall customer satisfaction

$H0_4$ There is no significant relationship between PDS quality and overall customer satisfaction

$H0_5$: There is no significant relationship between PDS flexibility and overall customer satisfaction

1.4 Objectives of the Study

This study has general and specific objectives related with the above statements and it will try to achieve these objectives at the end of the study.

1.4.1 General objective of the study

The general objective of the study is to investigate the effect of Physical distribution service on customer satisfaction, a case of *Ambo Mineral Water S.C, Addis Ababa, bole sub city*.

1.4.2 Specific Objectives of the Study

Particularly, the specific objectives of the study are:

- To determine the relationship between product availability and customer satisfaction.
- To regulate the relationship between physical distribution service timeliness and customer satisfaction.
- To observe the relationship between physical distribution service quality and customer satisfaction.
- To ascertain the relationship between physical distribution service flexibility and customer satisfaction.

1.5 Significance of the Study

This study will help *Ambo Mineral Water S.C.* management team to focus on how to provide effective and efficient physical distribution services to satisfy customer. I hope that from the suggestions and recommendations the management team of *Ambo Mineral Water S.C.* can make a better decision in order to become effective on handling their customer. This paper will also help other researchers to conduct further studies on Physical distribution services and its effect on customer satisfaction. In addition to this, the paper will help readers to gain knowledge and better understanding in the area of physical distribution service and customer satisfaction.

1.6 Scope of the Study

This study will be limited to the effect of Physical distribution services (product availability, Physical distribution service timeliness, Physical distribution service quality and physical distribution service flexibility) on customer satisfaction regarding to *Ambo Mineral Water S.C, bole sub city.* Due to the broad nature of Physical distribution, all the customers of *Ambo Mineral*

Water S.C around bole sub city (such as hotel, restaurant, bar, Cafe and shop) will be included to see the effectiveness of overall physical distribution services to improve customer satisfaction. Therefore, the research will not include other areas than the above listed areas.

1.7 Limitation of the Study

The primary limitation for this study is *Ambo Mineral Water S.C.* has distributers all over Ethiopia. From these most of them are in Addis Ababa. However, the study will be conducted in bole sub city in Addis Ababa because of time constraint and other resource limitations. This means the data will be collected within bole sub city customers and the findings of the questionnaire may not fit with other Sub city of Addis Ababa.

The secondary limitation for this study is lack of published data or study that is conducted on physical distribution service in Ethiopia on the soft drink Industries, especially with regard to customer satisfaction. Finding measurement instruments was very difficult so I have to adopt foreign studies as much as possible.

1.8 Organization of the study

The arrangement of the proposal is organized into three chapters; the first chapter deal about background of the study, statement of the problem, research question, objectives of the study, significant of the study, scope of the study and organization of the study. The second chapter of the proposal was concerned on presenting the review of the related literature which described the detail theoretical aspects that support and clarify the practical aspects of the study. The third chapter focused on research design and methodology.

CHAPTER TWO

2. Review of Theories and Concepts

2.1 Definition of Physical Distribution

According to Rushton *et al.* (2010) Physical distribution or logistics is concerned with physical and information flows and storage from raw material through to the final distribution of the finished product. They explained that supply and materials management represent the storage and flows into and through the production process, while distribution represents the storage and flow from the final production point through to the customer or end user. They noted that a major emphasis is now placed on the importance of information as well as physical flows and storage, and an additional and very relevant factor is that of reverse logistics – the flow of used products and returnable packaging back through the system.

Distribution is the process of planning, implementing and controlling the physical flow of materials, final goods and related information from point of origin to point of consumption to meet customer requirements at a profit (Phillip Kotler and Armstrong, 2001). It is the marketing function responsible for movement of products to the final users. It could be said that production is not complete until the goods reach the final users and for this to be accomplished, manufactured goods have to pass through distribution channels.

The physical distribution systems say that all transporting, storing and product handling activities of a business and a whole channel system should be coordinated as one system that seeks to minimize the total cost of distribution for a given customer service level (Perreault *et al.*, 2010). This systems approach to physical distribution management results in lower costs and better customer service which help to increase customer value and customer satisfaction.

2.1.1 Role and Importance of Physical Distribution in Marketing Strategy Physical Distribution (PD) primarily is moving goods from origin to destination. Marketing strategy planning is based on meeting customers'" needs better than the Competitors. It seeks to create a differential advantage within target segments by which a distinct competitive position relative to other companies can be established and from which profit flows.

Delivering the right goods to the buyers at the right time and at the lowest possible cost is an important aspect of every good marketing program.

Coyle *et al.* (2003) explain that Good logistics is business power. Because it helps build competitive advantage. At the end of the day if you cannot get your products to your customers, you will not stay in business very long. This is not to say that you do not need quality products and effective marketing. Both are obviously very important, but they must be combined with effective and efficient logistics systems for long run success and financial viability.

2.1.2 Customer service

Coyle *et al.* (1996) defined customer service as "an augmented product feature that adds value for the buyer. Regardless of how it is defined or perceived, customer services may be the best methods of gaining competitive advantage for many firms (Lambert, 1993). It can be used to differentiate firm's products, keep customer loyal and increase sales and profits (Tucker 1980, cited in Sharma and lambert, 1994, p.50).

LaLonde and Zinszer (1976) stated that customer service has three main components. 1) An activity to satisfy customers" needs 2) a performance measure to ensure customer satisfaction and 3) a philosophy of firm wide commitment.

2.1.3 Integration of marketing and logistics Channels

Customer service is a pervasive, boundary-spanning activity that takes place from within and beyond the firm. The key to creating a unified perspective is integration from within the firm and between the firm and the other channel members. Integration within the firm should focus on marketing and logistics activities. These are the primary functions which interface with the customer. The thrust of the firm (to obtain and service demand) occurs through marketing and logistics. Traditionally marketing and logistics have evolved separately within many corporations. Ironically, one key to resolve the role, responsibilities and scope of customer service begins with the integration of these major customer contacting functions (Harris and Stock, 1985).

2.1.4 Physical Distribution Service.

Physical distribution service is defined as the interrelated package of activities provided by a supplier which creates utility of time and place for a buyer and insures form utility. From the customer's perspectives, then, physical distribution service is the mechanism that assures goods will be available. Such a definition implicitly excludes product consulting, training seminars, technical services, and similar services not directly related to the order and delivery of a product. These activities, although important, are excluded because they are not a direct concern of the physical distribution mix, rather they are part of the product mix (Perreault et al., 1976).

Physical distributions generally regarded as part of a general logistics concept, which also includes marketing customer service (Mentzer, Flint &Hult, 2001). As Xing and Grant (2006) declared, Physical distribution deals with finished products and is considered as a part of a firms out bound logistics that incorporates a relationship between the firm and its customers. They also said that Physical distribution provides time, place and form utilities that are crucial for customer service.

2.1.5 Physical Distribution Service versus Customer Service

Physical Distribution Service applies only to provision of time and place, and indirectly, form utility. Conversely, customer service is a more generic term that encompasses PDS, but which also includes product design and maintenance, operator training, salesperson attitude and responsiveness, ease of customer interface with the company, guarantees, price, and numerous other activities that facilitate possession utility. Thus, customer service can be said to be produced by all of the activities a company undertakes to satisfy the customer.

Of those activities, Physical Distribution service results from the subset of activities that provides time and place utility. Physical distribution service focuses on the individual order cycle, commencing with order placement and concluding with satisfactory delivery. Benefits derived from activities outside the context of the order cycle may be aspects of customer service, but they are not in the Physical Distribution service domain (Mentzer *et al.*, 1989).

2.1.6 Physical Distribution Services Dimension

Adopted from Mentzer et al (1989) pp. 59

The dimensions are:

1. Product availability: Availability is the proportion of units, order lines, or orders completely filled. Goods that are unavailable must either be backordered, causing time delays and extra costs, or the order is simply cancelled by the customer. Notably, the availability benefit is provided whenever the customer is not required to wait an abnormal length of time, or to place the order again. Thus, an order directed to a location that is stocked out, if filled in timely fashion from another location, does not produce a reduced availability level from the customer's perspective. From the retail perspective, availability is provided if the product is on the shelf for purchase when the customer arrives at the shelf to obtain it (Mentzer *et al.*, 1989).

Wild (2002) argues that the key objective of inventory control is reflected in attaining the preferred level of product availability as a significant aspect of customer service. According to Trautrims et al. (2009) customer service for retail consumers is manifested by product availability as the fundamental performance indicator of the entire supply chain. Securing the adequate availability level also raises the service quality level in retail stores, which can make a positive impact on customer loyalty (Beneke et al., 2012) and the business performance of retailers and their suppliers (Mittal et al., 2005). If, however, the demand cannot be met due to insufficient amounts of products on stock, out of-stock (OOS) problem emerges, facing all supply chain members, primarily customers.

It is measured by its indicators, namely: (a) Percent unit's filled, (b) percent order lines 100 percent filled, and (c) percent order 100 percent filled.

2. Physical Distribution Service timeliness: Timeliness is the order cycle time performance of the entire distribution system linking buyers and sellers. For the buyer, it is the time elapsed between placing and receiving an order. Timeliness encompasses the duration of one order cycle for a single customer as well as central tendency and variability across multiple order cycles for one or more customers (Mentzer *et al.*, 1989).

It is measured by its indicators, namely: (a) mean order cycle time, (b) standard deviation of order cycle time, and (c) percent units received in specified time period.

3. Physical Distribution Service quality: According to Mentzer *et al.* (1989) the quality of physical distribution service depends on the incidence of in-transit damage, shipment of incorrect items, and incorrect shipment quantity. Quality is the most heterogeneous of the constructs, yet it remains a distinct area of customer benefit, clearly within the PDS domain. PDS quality is the "form and composition of the delivery order" (Beinstock et al., 1997, p.32). It is about the accuracy and quality of the order. Research by Millen et al. (1999) identifies significantly improved customer satisfaction as a key benefit of PDSQ. On these lines, research in Spain by Va´zquezCasielles et al. (2002, p. 40) confirms that quality in supplier physical distribution activities has the greatest influence on customer satisfaction.

It is measured by its indicators, namely: (a) Percent units received in acceptable conditions, (b) Percent units are correct units, and (c) percent units are in correct quantity:

4. Physical Distribution Service flexibility: is the ability of the firm to rapidly and effectively adjust inventory, packaging, warehousing and transportation of the physical products in respond to customer requirements (Day 1994; Lambert et al.1998). Supplier flexibility should affect the link between customer service and customer satisfaction. The extent to which a firm will adapt to a customer's needs may be characterized as flexibility (Buffa, 1984; Bandyopadhyay and Robicheaux, 1997).Providing Flexibility offers the firm an opportunity to meet or exceed the customer's expectations, thereby resulting in customer satisfaction (Oliver, 1980).

It is measured by its indicators, namely: (a) flexible order policies (b) expedite and substitute capacity, and (c) timely response to unexpected needs of customers. This fourth dimension is not shown in the figure, but it is being considered as critically important in modern physical distribution service.

2.1.7 Customer Satisfaction

Customer Satisfaction has been a central concept in marketing literature and is an important goal of all business activities. Today, companies face their toughest competition, because they move from a product and sales philosophy to a marketing philosophy, which gives a company a better

chance of outperforming competition (Kotler, 2000). Overall customer satisfaction translates to more profits for companies and market share increase.

Kotler (2000) defined satisfaction as: "a person's feelings of pleasure or disappointment resulting from comparing a product perceived performance (or outcome) in relation to his or her expectations".

Customer satisfaction has a positive effect on an organization's profitability. The more customers are satisfied with products or services offered, the more are chances for any successful business as customer satisfaction leads to repeat purchase, brand loyalty, and positive word of mouth marketing. Customer satisfaction leads to repeat purchases, loyalty and to customer retention (Zairi, 2000). Satisfied customers are more likely to repeat buying products or services. They will also tend to say good things and to recommend the product or service to others. On the other hand, dissatisfied customers respond differently.

Dissatisfied customers may try to reduce the dissonance by abandoning or returning the product, or they may try to reduce the dissonance by seeking information that might confirm its high value (Kotler, 2000). Customer satisfaction is the outcome felt by those that have experienced a company's performance that has fulfilled their expectations. (Angelova and Zekiri, 2011).

2.2 Review of Empirical Studies

Several studies developed a ranking of factors importance of physical distribution service in supplier evaluation and purchase decisions and also the importance of individual physical distribution elements.

Jackson, Keith, and Burdick (1986) examined the perceived relative importance of six physical distribution service components and how the importance varied across five product types and three buy classes. Purchasing agents from 25 large industrial manufacturing firms were randomly assigned to one product type and one buy class condition. And their finding are although PDS importance's varies across product type, elements such as consistency of delivery, in- stock performance, and lead time stand out as important across most products.

Luce (1982) surveyed the opinions of purchasing managers (located in two industrial areas in Brazil) on the subject of physical distribution service. Respondents were asked to rank order the five purchasing factors and the five PDS elements which they perceived as most important. Final ranking was done by a Wilcoxon matched-pairs signed test conducted for every difference between mean rankings. The rank order of the five purchasing factors was quality, price, PDS,

location, and minimum order size. The five PDS elements which were mentioned most often were: accuracy in filling orders, average delivery time, rush services and billing, action on complaints, and order status information.

Levy (1978) conducted a mail survey of manufacturers and wholesalers in the over-the-counter pharmaceutical products industry. The wholesaler questionnaire requested information on the wholesalers' perceptions of their suppliers' (the manufacturers) service performance. The manufacturers' questionnaire requested information on their perception of the importance of each service to their wholesalers. Factor analysis was used to determine the underlying structure of relevant customer service elements. Discriminant analysis was used to determine which customer services are perceived differently by wholesalers and manufacturers. To determine the relative importance of customer service elements, 50 wholesaler executives were telephone surveyed and asked to rank from 1 to 9 each cell of a matrix which crossed the service levels of two customer service elements. Each respondent ranked ten combinations. Through conjoint analysis, the relative importance of the customer service variables and the perceived monetary value of these services were investigated.

The results of the rank ordering of the customer service elements in terms of perceived dollar value were fill rate, terms of sale, lead time, order placement policy, and consistent delivery.

Anderson, Jerman and Constantin (1978) investigated the relative importance of physical distribution goals (elements). In a mail survey, each respondent completed 20 paired comparisons of goals which were converted to an interval scale and the mean values used for the goal ranking. The results of the PDS rankings were order cycle time reliability, percent orders filled, minimum PDS cost, minimum order cycle time, and minimum damage in transit. For this article, the relevance of this finding is that the importance of goals (essentially PDS elements) is the same whether the respondent is top or middle management.

2.3 Conceptual Framework and Hypothesis of the Study

2.3.1 Conceptual Frame work of the study

The customer satisfaction is the Dependent variables. Physical distribution services (product Availability, PDS Timeliness, PDS Flexibility and PDS quality) are the Independent Variables.

2.3.2 Hypothesis of the study

The theory which supports the hypothesis formulation was discussed in the empirical review.

$H0_1$ There is no significant relationship between performance of physical distribution activities and perceived physical distribution service.

$H0_2$ There is no significant relationship between product availability and overall customer satisfaction,

$H0_3$ There is no significant relationship between PDS timeliness and overall customer satisfaction

$H0_4$ There is no significant relationship between PDS quality and overall customer satisfaction

$H0_5$: There is no significant relationship between PDS flexibility and overall customer satisfaction

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Description of the Study Area

This study will be conducted in *Ambo Mineral Water S.C* Bole Sub city that is found in Addis Ababa city administration which is the capital city of the Ethiopia. It was selected due to the fact that it is the largest factory in terms of soft drinks production and has large number of customers (in Bole sub city) besides its proximity to me and ease in accessing the respondents with limited financial and time resources. By appreciating the importance of Physical distribution system, this study will be designed to examine the effect of physical distribution services on customer satisfaction in *Ambo Mineral Water S.C*., Bole sub city.

3.2 Research Approach

This study will use a quantitative research which is deductive in nature. According to (Bhattacherjee, 2012), the goal of deductive research is to test concepts and patterns known from theory using new empirical data. Hence deductive research is theory testing research which is the objective of the research is not just to test a theory, but also to refine, improve, and possibly extend it. (Saunders, et al., 2012) stated that "quantitative research is usually associated with a deductive approach as well as with positivism, where the focus is on using data to test theory.

The essence of quantitative research is to use a „theory" to frame and thus understand the problem at hand. It is grounded in the basic attitude that knowledge about reality can also be obtained „through the eyes of the researcher". In order to make this happen, theory is most often translated into a conceptual model and elaborated predominantly by means of hypotheses (Kothari, 2004). For the researcher conducting quantitative research implies carefully operational zing a theory and subsequently measuring it by means of variables and questions. The researcher needs to justify the way in which he has designed and operationalize the research methodologically and technically (Jonker, et al., 2010).

Thus, in this study, the researcher will be used quantitative approach, the rationale behind using this approach is that the study is based on deductive approach where the hypotheses of the study will be tested and finally the relationship among variables established.

3.3 Research Design

In simple terms a research design is a plan of methods and procedures that is used by researchers to collect and analyze the data needed. Decisions regarding what, where, when, how much, by what means concerning an inquiry or a research study constitute a research design (Kothari, 2004).

The descriptive research sets out to describe and to interpret what it is. It aims to describe the state of affairs as it exists. The major purpose of descriptive research is describing the state of affairs as it exists at present. On the other hand, Explanatory research is conducted when we encounter an issue that is already known and have a description of it. The desire to know why to explain is the purpose of explanatory research (kothari,2004). Thus, explanatory research aims to understand phenomena by discovering and measuring casual relations among them.

This researcher will collect data on four dimensions of Physical Distribution Service from customers of Ambo Mineral Water S.C, Bole Sub city to describe the effect on customer satisfaction across four dimensions. So, the researcher will use descriptive research and analyze the causal relations between the dependent variable (Customer satisfaction) and the independent variables (PDS dimensions) using correlation and regression, which makes the research explanatory, and this makes the research both descriptive and explanatory.

3.4 Population and Sampling

3.4.1 Population of the study

A population is defined as the set of individuals, objectives, or data from where a statistical sample can be drawn (Saunders et al., 2007). The total population of the study comprised of customers of Ambo Mineral Water S.C bole sub city. Statistically, the population of the study consisted of all the customers in bole sub city and includes both Hotels, Restaurants, Bars, Cafes and shops.(Marketing and sales department of Ambo Mineral Water s.c.).

3.4.2 Sample size and Sampling Techniques

3.4.2.1 Determination of Sample Size

The study recognizes that the size of the sample is an important factor that affects the accuracy of the survey study. Onodugo et al (2010:69) noted that the larger the size of the sample, the smaller the sample error and more representative the finding to the entire population. However, if a larger sample than what is necessary is used, resources are wasted and if it is too small the objective of the analysis may not be achieved. Hence, the size of the sample according to Jarboe (1996: 87) will be based upon pre-specified level of accuracy required to accomplish the research objectives.

The level of accuracy of the study was set at 95% confidence interval or maximum allowable error of 5%. Then applying Taro Yamane's formula for finite population in Onodugo et al (2010: 69) thus:

$$n = N/[1 + N(e)^2]$$

Where n = Sample size

N = the finite population

e = Level of significance (or limit of tolerable error)

I = Unity (is a constant)

With N= 400

e = 0.05

$$\therefore n = \frac{400}{1+400\ (0.05)^2}$$

$$= \frac{400}{1+\ 400(0.0025)}$$

$$= \frac{400}{}$$

$$= \frac{1 + 1}{400}$$

$$= \frac{400}{2}$$

$$n = 200$$

Thus a total number of 200 respondents were given the questionnaire.

3.4.2.2 Sampling Technique

The population of study is made up of 400 AMW staff and bulk customers which was stratified into senior staff, junior staff, distributors and retailers. The sample size for each stratum or category was estimated using Bowley's proportional allocation statistical technique stated as follows:

$$nh = \frac{nNh}{N}$$

Where

nh = the number of units allocated to each stratum

Nh = the number of units in each stratum

n = the total sample size

N = the total population.

Thus

Proportion of senior staff to be sampled

$$nh = \frac{200 \times 14}{400} = 7$$

Proportion of junior staff to be sampled

$$nh = \frac{200 \times 32}{400} = 16$$

Proportion of distributors to be sampled

$$nh = \frac{200 \times 101}{400} = 51$$

Proportion of retailers to be sampled

$$nh = \frac{200 \times 253}{400} = 126$$

These sample proportions are shown in the table below

Table3. 1: Sample proportions of AWM Staff and Bulk Customers

Staff		**Bulk Customers**		**Total**
Senior	**Junior**	**Distributors**	**Retailers**	
7	16	51	126	200

Source: Field survey, 2012.

3.5 Data Sources and Types

There are two types of sources when collecting data; primary and secondary data sources. Primary sources are directly related to the study purpose. Primary data consists of all the data collected throughout the study. Secondary data on the other hand, contains relevant data that has been collected for a different purpose but from which the conclusion is valuable for the purpose.

The researcher will use both primary and secondary data sources. Primary data is used through conducting questionnaire regarding PDS. Secondary data is used through a theoretical study comprised of different journals, research studies, books, articles, internet websites and report documents from the company.

3.6 Validity of Instrument

Okwandu (2004; 99) stated that validity is concerned with whether a measuring instrument measures the theoretical construct rather than reflecting some other phenomenon.

Research supervisors and renowned marketing professionals approved the content of the questionnaire. The instrument was constructed and sent to them for scrutiny with regard to simplicity of language and relevance of purpose. Later, the necessary corrections were effected and the instrument was approved.

3.7 Reliability of Instrument

Reliability concerns the extent to which a measure is accurate and consistent (Okwandu 2004:98). A reliability test was carried out to test the consistency of the questionnaire. It is vital to do this because when scales are chosen in any study, the researcher needs to ensure that they are reliable, and that they have internal consistency. Internal consistency refers to how well the scales measure the underlying constructs.

The popular and commonly used method to assess consistency is Cronbach alpha. Hair et al (2007) have provided rules of thumb for interpreting alpha values. They mentioned an alpha value of .70 or higher as an appropriate range to measure the reliability. Alpha Cronbach was used to assess the reliability of the questionnaire for this research. The result from the analysis of the questionnaire reliability by using SPSS software for the foremost 30 sampled questionnaire for both the staff and customers of the company under study shows that the factor scales are internally consistent, with the Cronbach alpha greater than .70. The alpha values show the probability that the same result would be achieved given the same background if the questionnaire is re-administered (See appendix 5 for the reliability table).

3.8 Method of Data Presentation and Analysis

Descriptive Statistics – frequencies and percentages, pie chart and bar charts were used to present and analyze the data. Pearson correlation coefficient was used to test the hypotheses. The statistical package for Social Sciences (SPSSWIN) Version 17.0 which according to Ugwuonah (2005:51) has an SPSSWIN menu that gives summaries of data blocks which provide useful information in report writing was used to generate the descriptive and inferential statistics.

3.9 Instruments of Data Collection

The instrument will be used in this study is a close-ended questionnaire that will be developed mainly based on (Mentzer et.,1989) with slight adaptation from the review of related literature. Close-end, mainly Likert-scale, questions is used to collect data from respondents except for questions relates to demographic characteristics of the respondents. The close end questionnaire designed on a five-point Likert scale weighing as 1= Strongly Disagree, 2=Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree. It is a widely used rating scale which requires the respondents to indicates a degree of agreement or disagreement with each of a series of statements or questions (Sekaran,2003). This rating scale is easy to conduct and administer and respondents readily understand how to use the scale.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter deals with the presentation, analysis, tests and interpretations of the various data obtained from responses to questions in the questionnaire that was administered to the respondents. It started off by showing the administration of the questionnaire, and giving an overview of the demographic profiles of the respondents. Finally, the core data on physical distribution activities and services were presented, analyzed, tested and interpreted. The data presentation in the tables and figures are so self-explanatory that only statistical inferences were often made from them.

4.2 Questionnaire Analysis

4.2.1 Questionnaire Administration

Table 4.1 below shows that two hundred (200) copies of the questionnaire were distributed to staff and customers of AMW. The staff received (23) twenty three copies which they completed and returned totally while the customers completed and returned (170) copies out of (177) copies distributed to them. This gives a response rate of 96.5%.

TABLE4. 1: Questionnaire Administration

Respondents	**Administered**	**Returned**	**Not returned**	**Valid %**	**Cumulative %**
Staff: Junior	16 (100%)	16 (100%)	-	8	8
Senior	7(100%)	7(100%)	-	4	12
Customers: Retailers	126 (100%)	121 (96%)	5 (4%)	63	75
Distributors	51 (100%)	49 (96%)	2 (4%)	25	100
Total	**200 (100%)**	**193(96.5%)**	**7 (3.5%**	**100**	

Source: Field Survey, 2012.

4.2.2 Gender Distribution

The table below shows that 106 (55%) of the respondents are male while 87 (45%) are female.

TABLE 4.2: Sex Distribution of Respondent

Sex	Frequency	Percent	Valid Percent	Cumulative Percent
Male	106	55	55	55
Female	87	45	45	100
Total	**193**	**100**	**100**	

Source: Field Survey, 2012.

4.2.3 Age Distribution of Respondents

Table 4.3 illustrates the age distribution of the respondents. From the table we can see that we have more respondents within the ages of 41-50 years.

TABLE 4.3: Age Distribution of Respondent

Age	Frequency	Percent	Valid Percent	Cumulative Percent
30 years below	19	10	10	10
31-40 years	49	25	25	35
41-50 years	78	40	40	75
51years above	47	25	25	100
Total	**193**	**100**	**100**	

Source: Field Survey, 2012.

4.2.4 Educational Qualification of Respondents

The educational qualifications of respondents are presented in the table below. It shows that 137 (71%) of the respondents have National Diploma and below while 56 (29%) of the respondents have either HND/B.Sc, Masters Degree or Ph.D and above.

TABLE 4.4: Educational Qualification of Respondents

Qualification	Frequency	Percent	Valid Percent	Cumulative Percent
ND and below	137	71	71	71
HND/B.Sc	32	17	17	88
Masters	29	10	10	98
Ph.D and above	4	2	2	100
Total	**193**	**100**	**100**	

Source: Field Survey, 2012.

4.2.5 Staff Number of Years with the Company

Table 4.5 below shows that 13 (56%) of the staff have spent from 0-10 years while 10 (44%) of the staff have spent more than 10 years with the company.

TABLE 4.5: Staff Number of Years with the Company

Years	Frequency	Percent	Valid Percent	Cumulative Percent
0 – 5	4	17	17	17
6 – 10	9	39	39	56
11 – 15	7	31	31	87
16 and above	3	13	13	100
Total	**23**	**100**	**100**	

Source: Field Survey, 2012.

4.2.6 Staff Positions in the Company

The table below depicts the various positions occupied by the staff respondents. The three distinct positions showed 16 (70%) of the staff respondents are below supervisory level while the remaining 7 (30%) of the staff sampled are either supervisors or managers in the company. With a higher percentage of staff respondents below supervisory level, free flow of unbiased

information due to their innocence was achieved and this aided the achievement of the objectives of this study.

TABLE 4.6: Staff Positions in the Company

Positions	Frequency	Percent	Valid Percent	Cumulative Percent
Below Superior	16	70	70	70
Supervisor	4	17	17	87
Manager/above	3	13	13	100
Total	**23**	**100**	**100**	

Source: Field Survey, 2012.

4.2.8 Business Categories of Customers

Table 4.8 shows the two distinct categories of customers with 49(29%) as distributors/wholesalers and 121 (71%) as retailers.

TABLE 4.7: Business Categories of Customers.

Business Categories	Frequency	Percent
Distributor/Wholesaler	49	29
Retailer	121	71
Total	**170**	**100**

Source: Field Survey, 2012.

4.2.9 Frequency of product Supply to Customers

Table 4.9 and figure 4.1 show the frequency of product supply to customers. We can see from the table that 59 (34%) of the customers are supplied products twice or once per week while the remaining 111 (66%) receive products twice or once a month.

TABLE 4.8: Frequency of Product Supply to Customers.

	Frequency	Percent	Cumulative Percent
Twice a week	21	12	12
Weekly	38	22	34
Every two weeks	93	55	89
Monthly	18	11	100
Total	**170**	**100**	

Source: Field Survey, 2012.

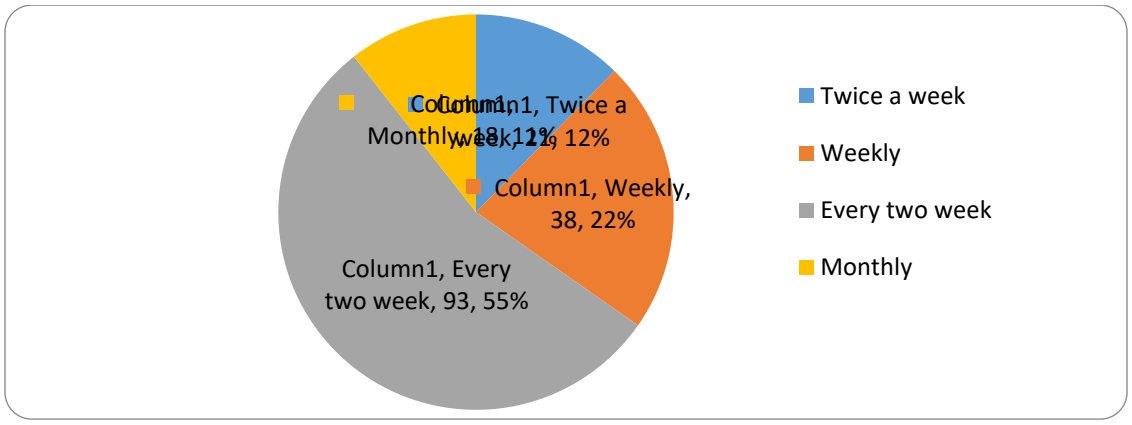

Figure 4. 1: Frequency of Product Supply to Customer.

4.2.10 Need to be supplied with AMW Products more frequently

Table 4.10 and Figure 4.2 show that 51 (30%) customers want to be supplied with **AMW** products more frequently than the case now while 119 (70%) customers are contented with the number of times they are supplied with **AMW** products.

TABLE 4.9: Need to be supplied with AMW Products More Frequently.

Responses	Frequency	Percent
Yes	51	30
No	119	70
Total	**170**	**100**

Source: Field Survey, 2012.

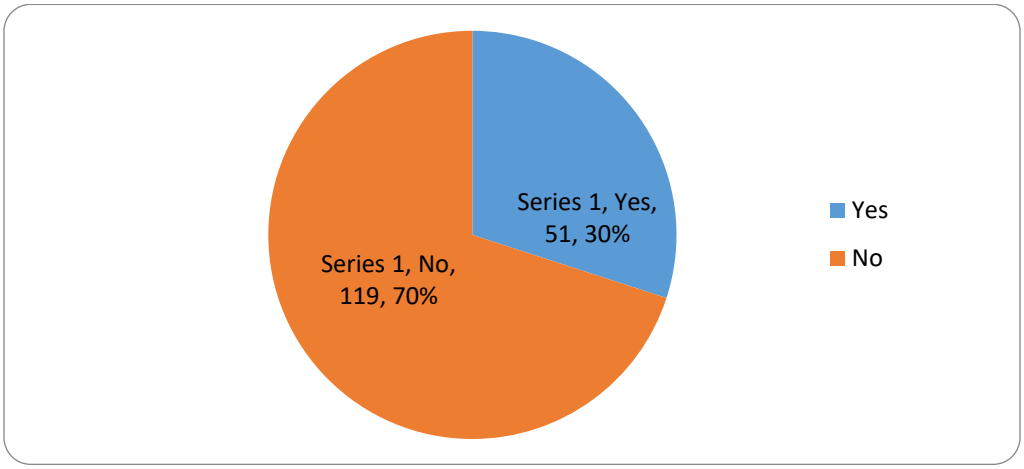

Figure 4. 2 Need to be supplied with AMW Products More Frequently.

4.2.11 Stock-out Experienced by Customers

Table 4.11 and figure 4.3 show that 61 (36%) customers indicated that they had experienced stock-outs while 109 (64%) customers said they had not experienced any stock-out.

TABLE4. 10: Stock-out Experienced by Customers.

Responses	Frequency	Percent
Yes	61	36
No	109	64
Total	170	100

Source: Field Survey, 2012.

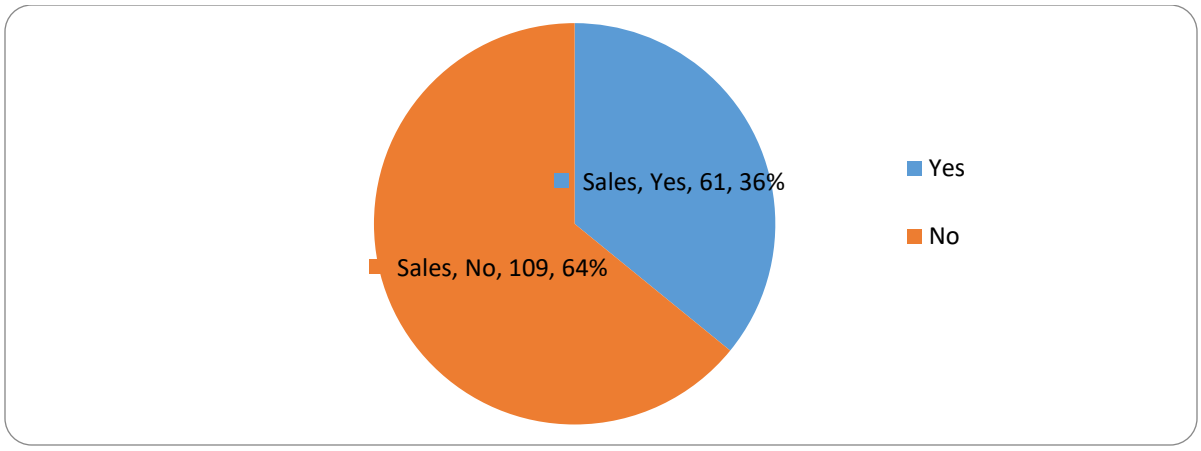

Figure 4. 3: Stock outs Experienced by Customers.

4.2.12 Frequency of Stock-out Experienced by Customers

Table 4.12 illustrates the frequency of stock-outs experienced by the customers. None of the 61 customers that experienced stock-outs had them very often or often but 34 (56%) of the customers experienced it rarely and 27 (44%) of the customers that experienced stock-outs admitted that they had it very rarely.

TABLE4. 11: Frequency of Stock-outs Experienced by Customers.

Responses	Frequency	Percent	Cumulative Percent
Very often	0	0	0
Often	0	0	0
Rarely	34	56	56
Very rarely	27	44	100
Total	**61**	**100**	

Source: Field Survey, 2012.

4.2.13 Factors Responsible for Stock-outs Experienced by Customers.

Table 4.13 and figure 4.4 show that 40 (66%) customers out of the 61 customers that experienced the stock outs accepted that the stock-outs were their own faults while the remaining 21 (34%) customers blamed the company for the stock-outs.

TABLE 4.12: Factors Responsible for Stock outs Experienced by Customers.

Responses	Frequency	Percent
Company related factors	21	34
Customer related factors	40	66
Total	**61**	**100**

Source: Field Survey, 2012.

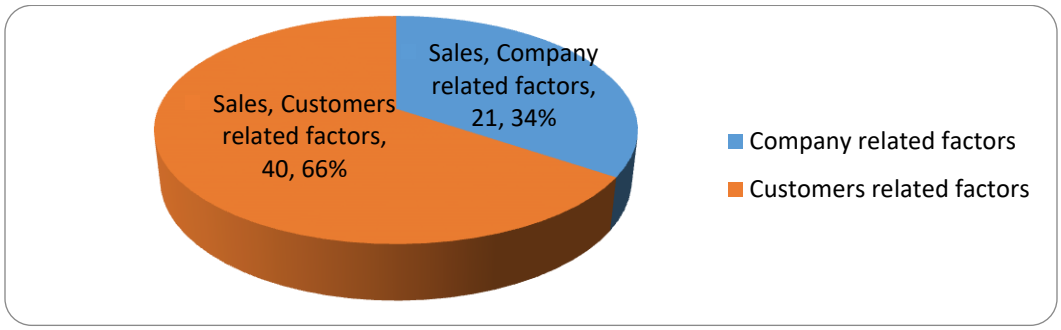

Figure 4. 4: Factors Responsible for Stock outs Experienced by Customers.

4.2.14 Stock outs Experienced by AMW

Table 4.14 and figure 4.5 indicate that 19 (83%) of the sampled staff admitted that the company had experienced stock-outs while 4 (17%) of them did not admit such occurrence.

TABLE4. 13: Stock outs Experienced by AMW.

Responses	Frequency	Percent
Yes	19	83
No	4	17
Total	23	100

Source: Field Survey, 2012.

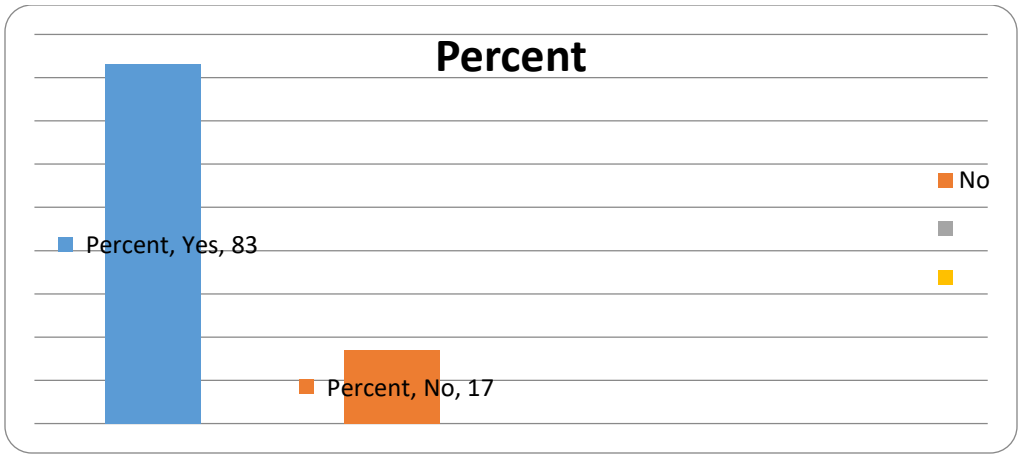

Figure 4. 5: Stock outs Experienced by AMW.

4.2.15 Frequency of Stock-outs Experienced by AMW

Out of the 19 staff respondents that admitted stock outs experienced by the company 10 (53%) said it occurred rarely while the remaining 9 (47%) said it occurred very rarely as indicated in table 4.15 and figure 4.15 below.

TABLE4. 14: Frequency of Stock outs Experienced by AMW.

Responses	Frequency	Percent	Cumulative Percent
Very often	0	0	0
Often	0	0	0
Rarely	10	53	53
Very rarely	9	47	100
Total	**19**	**100**	

Source: Field Survey, 2012.

4.2.16 Factors Responsible for Stock-outs Experienced by AMW

Each of the 19 staff who admitted stock outs indicated more than one factor as the cause of the stock-out, 18 (95%) of them mentioned raw material, 14 (74 %) indicated power supply, 15 (79%) blamed transportation and 2 (11%) also mentioned other factors like strike and turn-around maintenance as shown in table 4.16 and Figure 4.6 below.

TABLE 4.15: Factors Responsible for Stock outs Experienced by AMW.

Responses	Frequency	Percent
Raw Material	18	95
Power supply	14	74
Transportation	15	79
Others	**2**	**11**

Source: Field Survey, 2012.

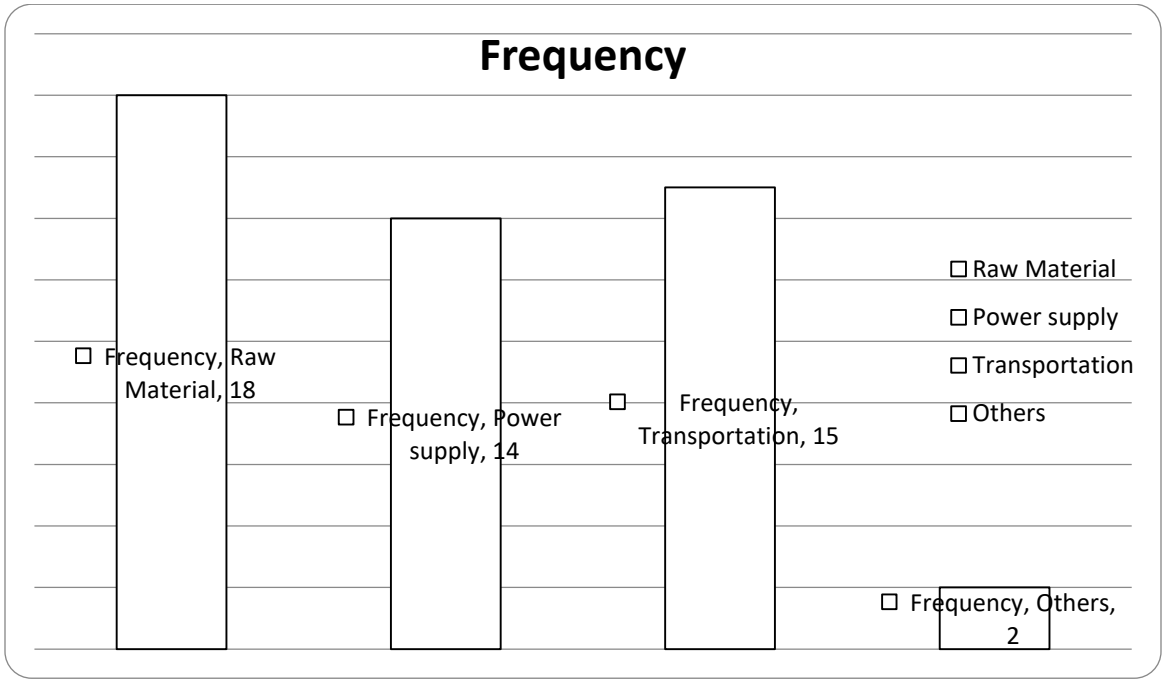

Figure 4. 6: Factors Responsible for Stock Outs Experienced by AMW.

4.2.17. Analysis of Questions Related to Research Question # 1 (Section B) Research Question #1: What is the relationship between physical distribution activities and physical distribution service?

Analysis of questions #1-4 in the questionnaire yielded tables 4.17, 4.18, 4.19 and 4.20 on physical distribution activities, related to objective # 1 and hypothesis # 1 (Independent Variable)

TABLE4. 16: (Q.no1) AMW Distribution Trucks/Vans are Adequate, Functional and *well-coordinated. (Transportation)*

Responses	Frequency	Percent	Cumulative percent
Strongly agree	59	31	31
Agree	86	45	76
Undecided	5	2	78
Disagree	22	11	89
Strongly disagree	21	11	100
Total	**193**	**100**	

Source: Field Survey, 2012.

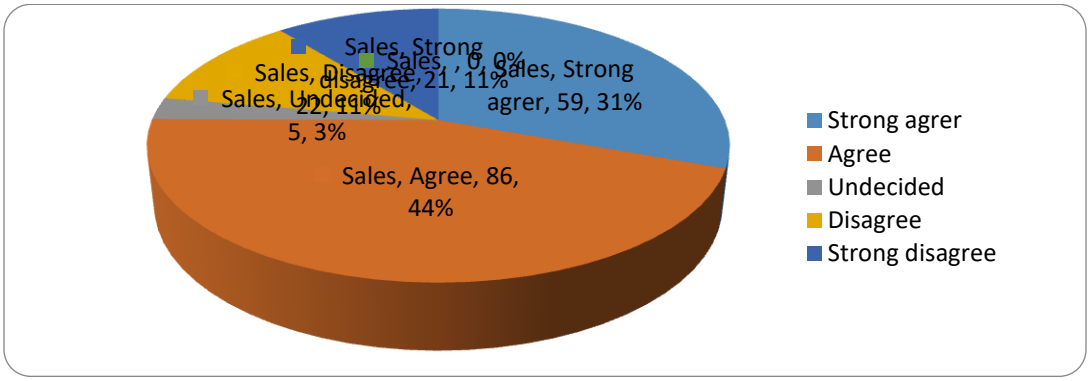

Figure 4. 7: Agreement/Disagreement that AMW Distribution Trucks/Vans are Adequate*, Functional and well-coordinated. (Transportation)*

The table and figure show that out of 193 respondents, 145 (76%) strongly agreed or agreed that AMW distribution trucks/vans are adequate, functional and well-coordinated while the remaining 48 (24%) were either undecided, disagreed or strongly disagreed.

TABLE 4.17: (Q.no2) AMW Warehouses are Adequate and Strategically Located. *(Warehousing)*

Responses	Frequency	Percent	Cumulative percent
Strongly agree	87	45	45
Agree	71	37	82
Undecided	6	3	85
Disagree	18	9	94
Strongly disagree	11	6	100
Total	**193**	**100**	

Source: Field Survey, 2012.

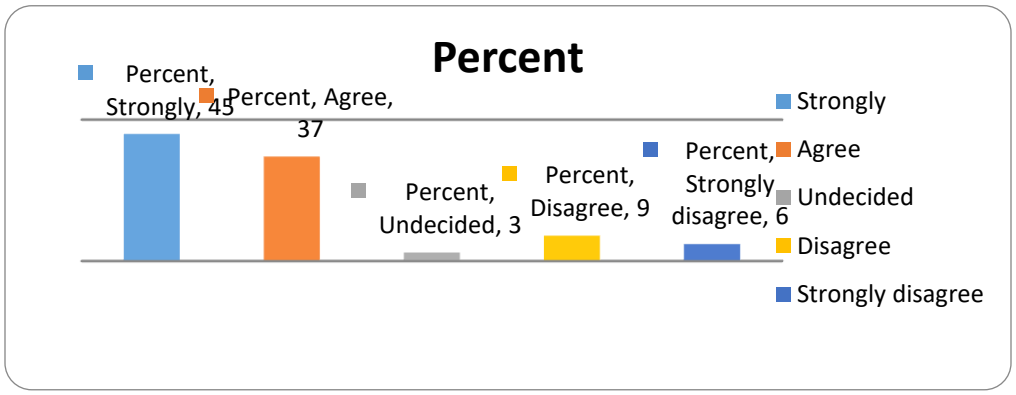

Figure 4. 8: Agreement/disagreement that AMW Warehouses are Adequate and Strategically *Located. (Warehousing)*

158 (82%) out of 193 (100%) of the respondents gave favorable response that AMW warehouses are adequate, and strategically located, while 35(18%) were either undecided disagreed or strongly disagreed.

TABLE4. 18: (Q.no.3) AMW Maintains Adequate Inventory Size and mix. (Inventory Control)

Responses	Frequency	Percent	Cumulative percent
Strongly agree	64	33	33
Agree	79	41	74
Undecided	3	2	75
Disagree	21	11	87
Strongly disagree	26	13	100
Total	**193**	**100**	

Source: Field Survey, 2012.

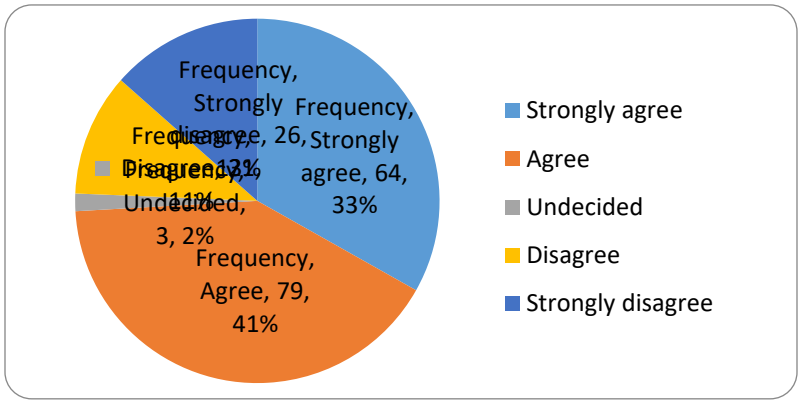

Figure 4. 9: Agreement/disagreement that AMW Maintains Adequate Inventory Size and mix. (Inventory Control)

Out of the 193 respondents, 143 (74%) agreed or strongly agreed that NBC maintains adequate inventory size and mix while 50 (26%) were undecided, disagreed or strongly disagreed.

TABLE 4.20: (Q.no.4) *AMW has Reliable, Computerized, Online, and Real Time Order Processing System. (Order Processing)*

Responses	Frequency	Percent	Cumulative percent
Strongly agree	56	29	29
Agree	88	45	74
Undecided	7	4	78
Disagree	25	13	91
Strongly disagree	17	9	100
Total	**193**	**100**	

Source: Field Survey, 2012.

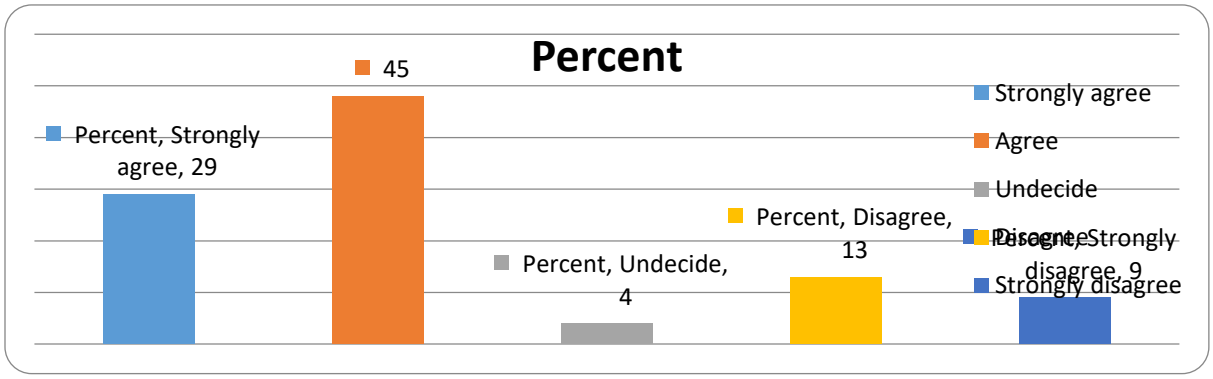

Figure 4. 10: Agreement/disagreement that AMW has Reliable, Computerized, Online, Real Time Order Processing System. (Order Processing)

Out of 193 respondents, 144 (75%) gave approving response that AMW has reliable, computerized, online, real time order processing system while 49 (25%) were either undecided or gave poor response.

TABLE 4.19: (Q.no.5) The Assorted Products (Mix) are always in Stock. (Product availability)

Responses	Frequency	Percent	Cumulative percent
Strongly agree	87	45	45
Agree	66	34	79
Undecided	3	2	81
Disagree	21	11	92
Strongly disagree	16	8	100
Total	**193**	**100**	

Source: Field Survey, 2012.

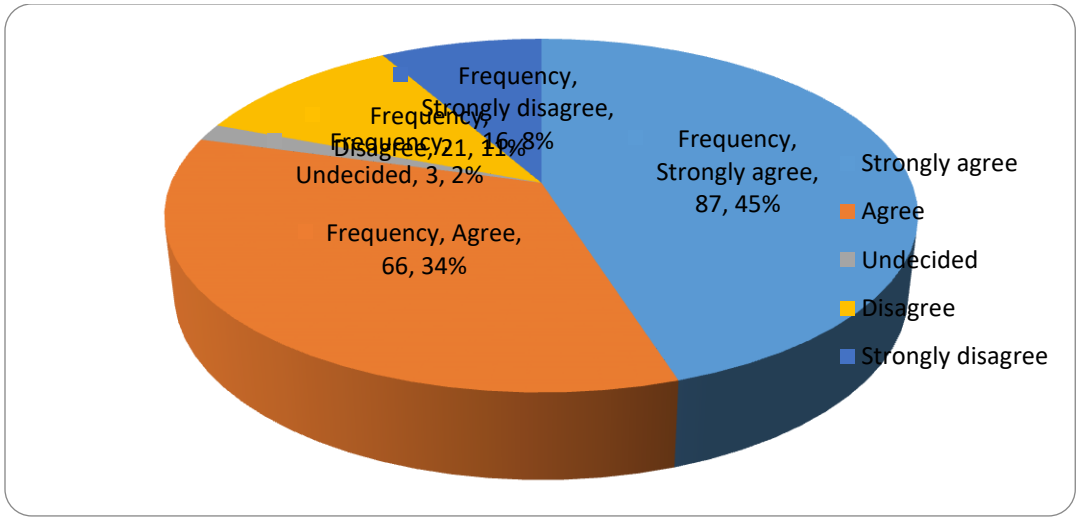

Figure 4. 11: Agreement/disagreement that The Assorted Products (Mix) are always in Stock. (Product availability)

Seventy nine percent (79%) of the respondents were in good of the statement that the assorted products are always in stock at AMW warehouses/depots while twenty one percent (21%) were either undecided or against it.

TABLE 4.20: (Q.no.6) The Units Ordered are (100%) Supplied (Product availability)

Responses	Frequency	Percent	Cumulative percent
Strongly agree	61	32	32
Agree	82	42	74
Undecided	2	1	75
Disagree	23	12	87
Strongly disagree	25	13	100
Total	**193**	**100**	

Source: Field Survey, 2012.

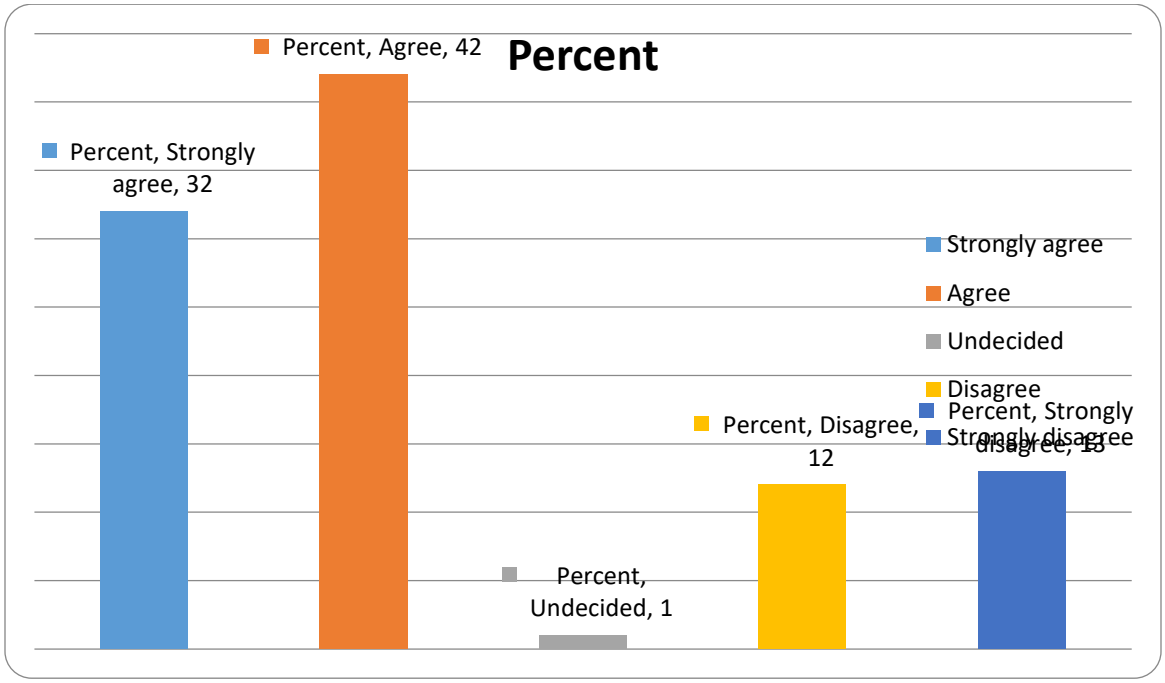

Figure 4. 12: Agreement/disagreement that The Units Ordered are (100%) Supplied (Product availability)

Seventy four percent (74%) of the respondents strongly agreed that the units ordered are (100%) supplied by AMW while twenty six percent (26%) were either undecided, disagreed or strongly disagreed.

TABLE 4.21: (Q.no.7) All Orders are (100%) Supplied (Product availability)

Responses	Frequency	Percent	Cumulative percent
Strongly agree	58	30	30
Agree	81	42	72
Undecided	2	1	73
Disagree	23	12	85
Strongly disagree	29	15	100
Total	**193**	**100**	

Source: Field Survey, 2012.

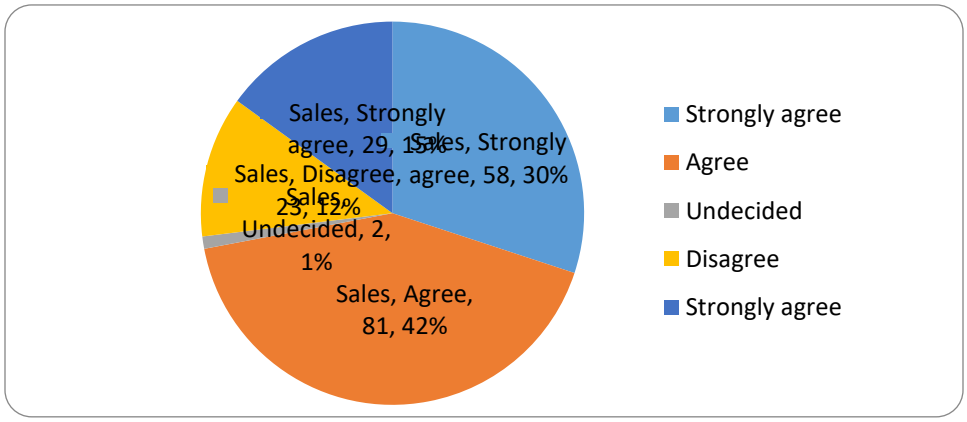

Figure 4.13: Agreement/disagreement that All Orders are (100%) Supplied (Product availability) *Seventy two percent (72%) of the respondents accepted that all orders are (100%) supplied at AMW while twenty eight percent (28%) did not accept.*

TABLE4. 22: (Q.no.8) Order Cycle Time is Right (PDS Timeliness)

Responses	Frequency	Percent	Cumulative percent
Strongly agree	87	45	45
Agree	64	33	78
Undecided	4	2	80

Disagree	29	15	95
Strongly disagree	9	5	100
Total	**193**	**100**	

Source: Field Survey, 2012.

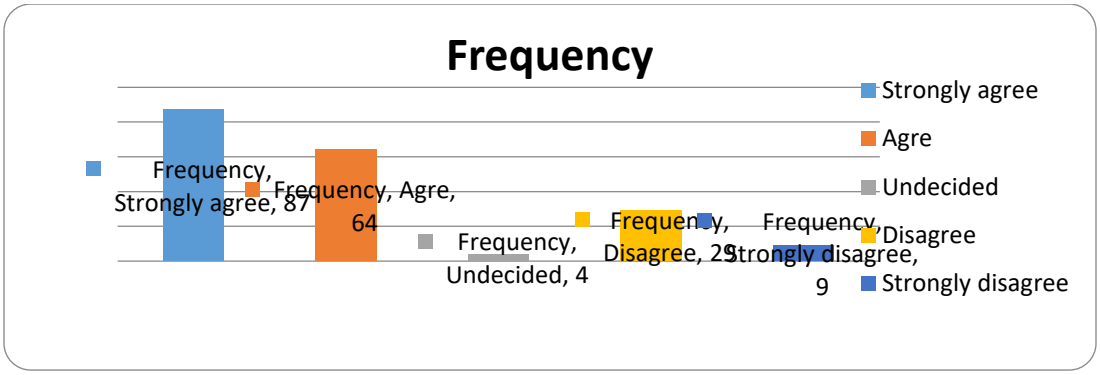

Figure 4.14: Agreement/disagreement that Order Cycle Time is Right (PDS Timeliness)

Seventy eight percent (78%) of the respondents were in good that AMW order cycle time is right while twenty two percent (22%) were undecided or against the statement.

TABLE 4.23: (Q.no.9) The Average Delivery Time is Reliable. (PDS Timeliness)

Responses	Frequency	Percent	Cumulative percent
Strongly agree	76	39	39
Agree	82	42	81
Undecided	5	3	84
Disagree	23	12	96
Strongly disagree	7	4	100
Total	**193**	**100**	

Source: Field Survey, 2012

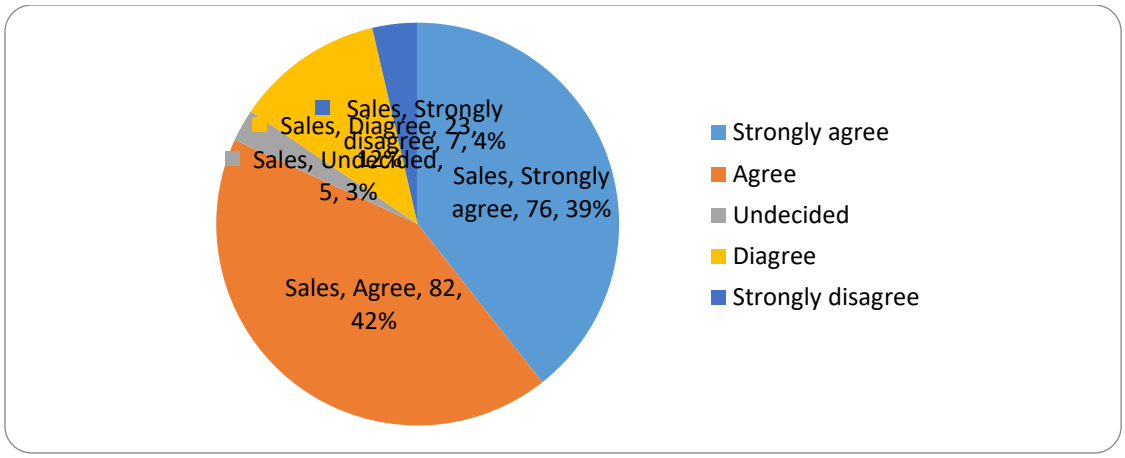

Figure 4. 15: Extent of agreement/ disagreement that the Average Delivery Time is *Reliable (PDS Timeliness)*

Eighty one percent (81%) of the respondents accepted that AMW average delivery time is reliable while Nineteen (19%) did not.

TABLE4. 24: (Q.no.10) The Percent Units Delivered in Specified Time Period is Consistent *(PDS Timeliness)*

Responses	Frequency	Percent	Cumulative percent
Strongly agree	75	39	39
Agree	77	40	79
Undecided	6	3	82
Disagree	26	13	95
Strongly disagree	9	5	100
Total	**193**	**100**	

Source: Field Survey, 2012

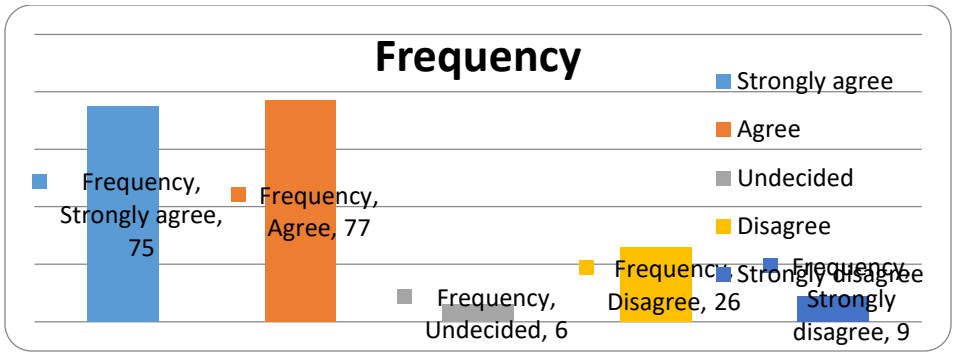

Figure 4. 16: Extent of agreement/disagreement that the Percent Units Delivered in Specified Time *Period is Consistent (PDS Timeliness)*

Seventy nine percent (79%) of the respondents strongly agreed or agreed that the percent units delivered in specified time is consistent at, while AMW twenty one percent (21%) were either undecided, disagreed or strongly disagreed.

TABLE 4.25: (Q.no11) The Percent Units Received in Acceptable Condition is Right *(PDS Quality)*

Responses	Frequency	Percent	Cumulative percent
Strongly agree	73	38	38
Agree	71	37	75
Undecided	4	2	77
Disagree	25	13	90
Strongly disagree	20	10	100
Total	**193**	**100**	

Source: Field Survey, 2012.

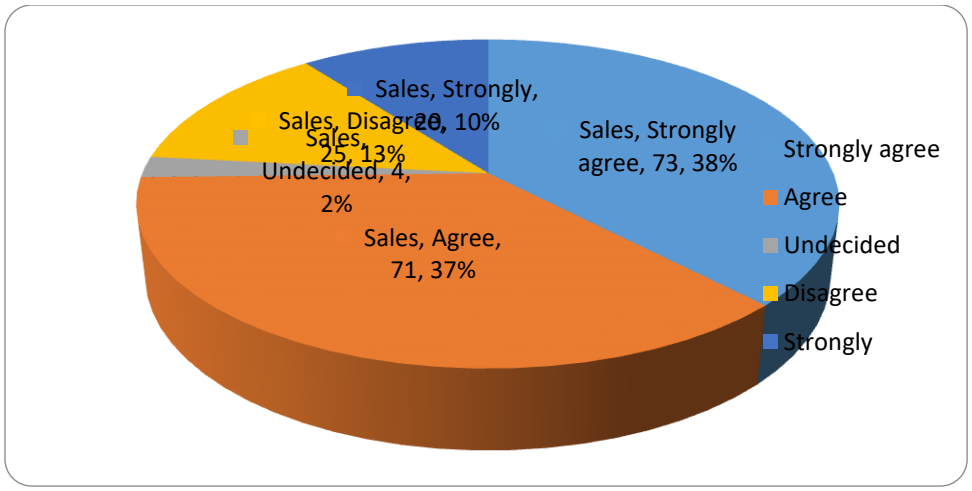

Figure 4. 17: Agreement/disagreement that the Percent Units Received in acceptable condition is *right (PDS Quality)*

Seventy five percent (75%) of the respondents accepted that a percent unit received in acceptable condition is right whereas twenty five percent (25%) did not.

TABLE4. 26: (Q.no.12) The Units that are supplied (100%) are Correct Units (PDS Quality)

Responses	Frequency	Percent	Cumulative percent
Strongly agree	43	22	22
Agree	78	40	62
Undecided	3	2	64
Disagree	44	23	87
Strongly disagree	25	13	100
Total	**193**	**100**	

Source: Field Survey, 2012.

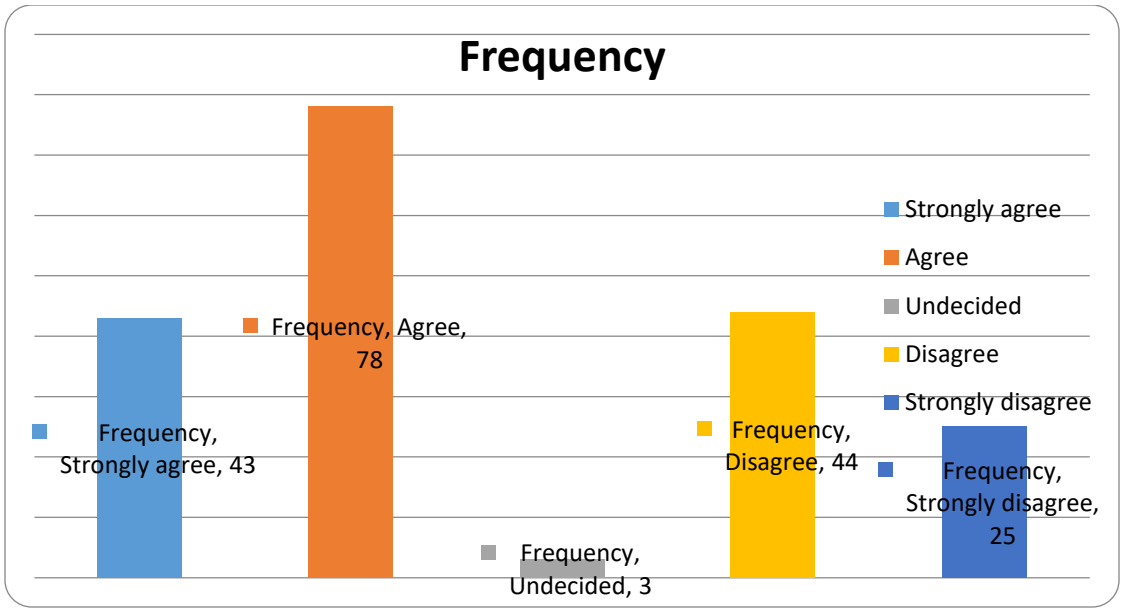

Figure 4.18: Extent of agreement/disagreement that the Units that are supplied (100%) are Correct Units (PDS Quality)

Sixty two percent (62%) of the respondent strongly agreed or disagreed that the units that are supplied by AMW are (100%) correct units whereas thirty eight percent (38%) either disagreed, strongly disagreed or were undecided.

TABLE4. 27: (Q.no.13) The Units that are delivered (100%) are in Correct Quantity (PDS Quality)

Responses	Frequency	Percent	Cumulative percent
Strongly agree	51	26	26
Agree	72	37	63
Undecided	7	4	67
Disagree	25	13	80
Strongly disagree	38	20	100
Total	**193**	**100**	

Source: Field Survey, 2012.

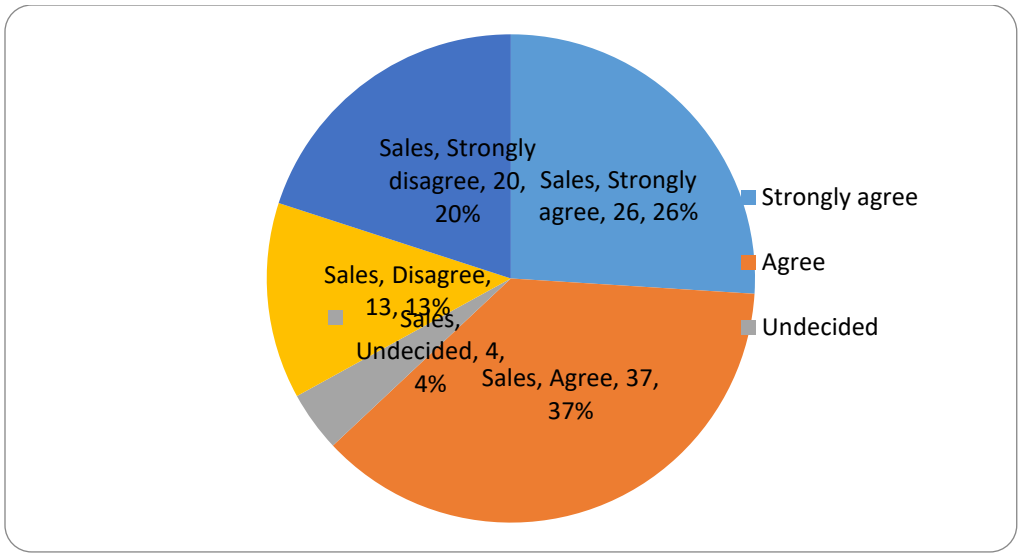

Figure 4. 19: Extent of agreement /disagreement that the Units that are delivered (100%) are in Correct Quantity (PDS Quality)

Sixty three percent (63%) of the respondents accepted that the units that are delivered (100%) are in correct quantity while thirty seven percent (37%) did not as indicated in the table above.

TABLE 4.28: (Q.no.14) AMW Order Polices are Flexible enough to Permit Timely Response to Changing Market Demands. (PDS Flexibility)

Responses	Frequency	Percent	Cumulative percent
Strongly agree	33	17	17
Agree	68	35	52
Undecided	7	4	56
Disagree	64	33	89
Strongly disagree	21	11	100
Total	**193**	**100**	

Source: Field Survey, 2012.

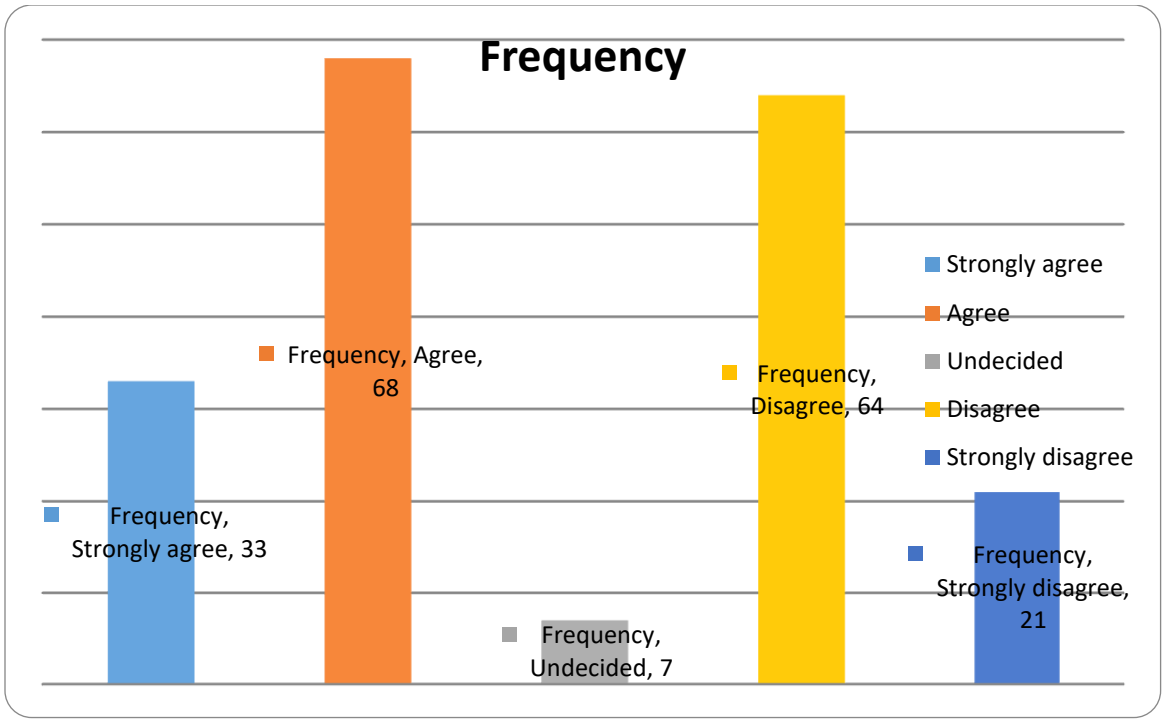

Figure 4. 20: Extent of agreement /disagreement that AMW Order Polices are Flexible enough to Permit Timely Response to Changing Market Demands (PDS Flexibility)

The table shows that fifty two percent (52%) of the respondents accepted that AMW order policies are flexible enough to permit timely response to changing market demands whereas forty eight percent (48%) did not.

TABLE 4.29: (Q.no.15) AMW has Expedite and Substitute Capacity to Respond to Special Customer Request (PDS Flexibility)

Responses	Frequency	Percent	Cumulative percent
Strongly agree	46	24	24
Agree	73	38	62
Undecided	10	5	67
Disagree	43	22	89
Strongly disagree	29	11	100

Total	**193**	**100**	

Source: Field Survey, 2012.

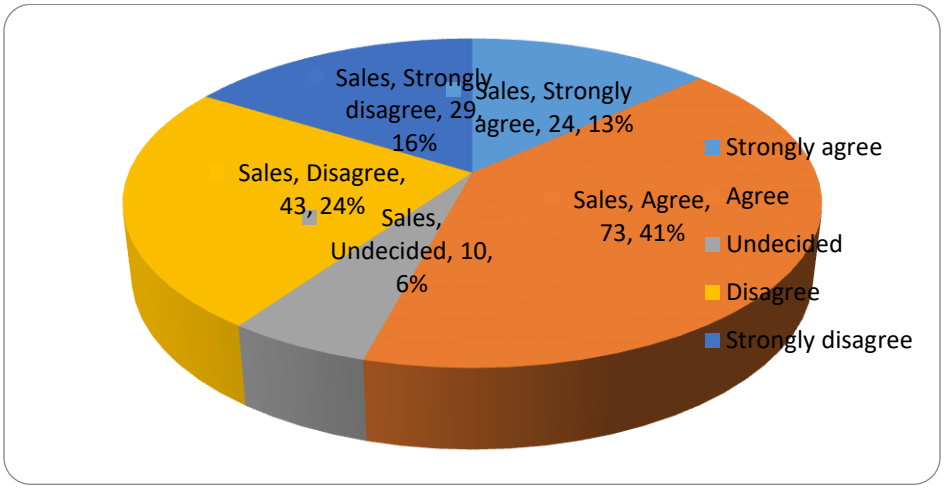

Figure 4. 21: Extent of Agreement that AMW has Expedite and Substitute Capacity to Respond to Special Customer Request (PS Flexibility)

The table shows that sixty two percent (62%) of the respondents are convinced that AMW has expedite and substitute capacity to respond to special customer requests but thirty eight percent (38%) are not convinced.

TABLE 4.30: (Q.no.16) AMW Responds Timely to Special Requests or Unexpected Needs of Customers (PDS Flexibility)

Responses	Frequency	Percent	Cumulative percent
Strongly agree	62	32	32
Agree	57	30	62
Undecided	8	4	66
Disagree	42	22	88
Strongly disagree	24	12	100
Total	**193**	**100**	

Source: Field Survey, 2012.

Of the 193 respondents, 119 (62%) accepted that AMW responds timely to special requests or unexpected needs of customers while 74 (38%) did not accept as shown in the table above.

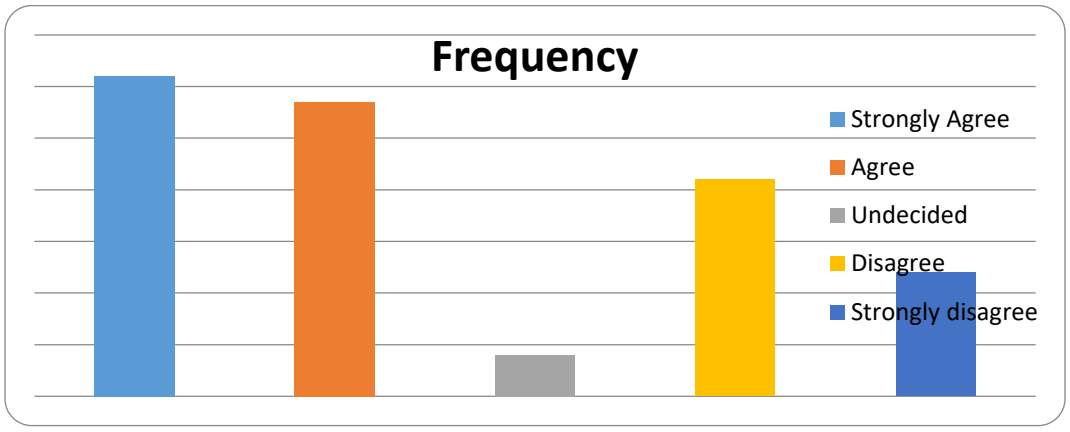

Figure 4. 22: Extent of agreement/disagreement that AMW Responds Timely to Special Requests or Unexpected Needs of Customers (PDS Flexibility)

4.2.18 Analysis of Questions Related to Research Question #2

Research Question #2: Is there any significant relationship between product availability and customer satisfaction?

To provide answer to this research question, responses to questions #5, 6 and 7 on product availability in the questionnaire as shown in table 4.21, table 4.22 and table 4.23 which are related to objective #2 and hypothesis #2 were consolidated to yield table 4.33.

TABLE 4.31: Consolidated Response to Qs 5, 6 & 7 Attached to #2 Objective, Research Question and Hypothesis- Independent Variable (Product Availability)

Response	Table 4.21	Table 4.22	Table 4.23	Total	% Response
Strongly agree	87	61	58	206	36
Agree	66	82	81	229	39
Undecided	3	2	2	7	1

Disagree	21	23	23	67	12
Strongly Disagree	16	25	29	70	12
Total	**193**	**193**	**193**	**579**	**100**

Source: Field Survey, 2012.

The three (3) indicators or factors of product availability as shown in tale 4.21, table 4.22 and table 4.23 have been reduced to one factor- product availability which is a dimension of physical distribution service to now serve as independent variable to #2 hypotheses.

4.2.19 Analysis of Questions Related to Research Question #3

Research question #3: What is the relationship between PDS timeliness and overall customer satisfaction?

Responses to questions #8, 9 and 10 on PDS timeliness in the questionnaire which have been analyzed in table 4.24, table 4.25 and table 4.26 that are related to # 3 research question, objective and hypothesis were consolidated to yield table 4.34.

TABLE 4.32: Consolidated Responses to Qs 8, 9 & 10 Attached to #3 Objective, Research Question and Hypothesis- Independent Variable. (PDS Timeliness)

Response	Table 4.24	Table 4.25	Table 4.26	Total	% Response
Strongly agree	87	76	75	238	41
Agree	64	82	77	223	39
Undecided	4	5	6	15	3
Disagree	29	23	26	78	13
Strongly agree	9	7	9	25	4
Total	**193**	**193**	**193**	**579**	**100**

Source: Field Survey, 2012.

The three indicators (factors) of PDS timeliness as shown in table 4.24, table 4.25 and table 4.26 earlier have been reduced to one factor PDS Timeliness to serve as Independent Variable to # 3 hypothesis.

4.2.10 Analysis of Questions Related to Research Question #4

Research Question # 4: Is there any relationship between PDS quality and overall customer satisfaction?

Responses to questions # 11, 12 1nd 13 on PDS quality in the questionnaire which had been analyzed in table 4.27, table 4.28 and table 4.29 that are related to #4 research question, objective and hypothesis were consolidated to yield table 4.35.

TABLE4. 33: Consolidated Responses to Qs 11, 12 & 13 Attached to #4 Objective, Research Question and Hypothesis- Independent Variable. (PDS Quality)

Response	**Table 4.27**	**Table 4.28**	**Table 4.29**	**Total**	**% Response**
Strongly agree	73	43	51	167	29
Agree	71	78	72	221	38
Undecided	4	3	7	14	3
Disagree	25	44	25	94	16
Strongly agree	20	25	38	83	14
Total	**193**	**193**	**193**	**579**	**100**

Source: Field Survey, 2012.

The three factors of quality as shown in table 4.27, table 4.28 and table 4.29 earlier have been reduced to one factor- PDS quality to serve as Independent Variable to #4 hypotheses.

4.2.11 Analysis of Questions Related to Research Question #5

Research Question #5: Is PDS flexibility related to overall customer satisfaction?

Responses to questions #14, 15 and 16 on PDS flexibility in the questionnaire which had been analyzed in table 4.30, table 4.31 and table 4.32 that are related to #5 objective, research question and hypothesis were consolidated to yield table 4.36.

TABLE 4.34: Consolidated Response to Qs 14, 15 & 16 Attached to #5 Objective, Research Question and Hypothesis- Independent Variable (PDS Flexibility)

Response	Table 4.30	Table 4.31	Table 4.32	Total	% Response
Strongly agree	33	46	62	141	24
Agree	68	73	57	198	34
Undecided	7	10	8	25	4
Disagree	64	43	42	149	26
Strongly agree	21	21	24	66	12
Total	**193**	**193**	**193**	**579**	**100**

Source: Field Survey, 2012.

The three factors or indicators of PDS flexibility as shown in table 4.30 table 4.31 and table 4.32 earlier have been reduced to one factor PDS flexibility to serve as independent variable to #5 hypothesis.

TABLE 4.35: Combined Consolidated Responses in Tables 4.33, 4.34, 4.35 and 4.36 Attached to #1 Objective, Research Question and Hypothesis- Dependent Variable (Perceived Physical Distribution Service)

Response	Product Availability	PDS Timeliness	PDS Quality	PDS Flexibility	Total	% Responses
Strongly agree	206	238	167	141	752	32
Agree	229	223	221	198	871	38
Undecided	7	15	14	25	61	3
Disagree	67	78	94	149	388	17

Strongly agree	70	25	83	66	244	10
Total	**579**	**579**	**579**	**579**	**2316**	**100**

Source: Field Survey, 2012.

The four (4) dimensions of physical distribution service- product availability, PDS timeliness, PDS quality and PDS flexibility were brought together to serve as Dependent Variable for Hypothesis 1.

TABLE4. 36: Consolidated Responses to Qs 1, 2, 3 & 4 Attached to # 1 Objective, Research Question and Hypothesis- Independent Variable. (PD Activities)

Responses	**Transportation**	**Ware housing**	**Inventory Control**	**Order Processing**	**Total**	**% Response**
Strongly Agree	59	87	64	56	266	34
Agree	86	71	79	88	324	42
Undecided	5	6	3	7	21	3
Disagree	22	18	21	25	86	11
Strongly Agree	21	11	26	17	75	10
Total	**193**	**193**	**193**	**193**	**772**	**100**

Source: Field Survey, 2012

Responses to the questions on the four (4) major dimensions of physical distribution activities namely transportation, warehousing, inventory control and order processing were brought together to serve as Independent Variable for hypothesis 1.

Analysis of Qs # 17, 18 and 19 on overall customer satisfaction with AMW physical distribution service, attached to objectives, research questions and hypotheses # 2 to # 5 yielded tables 4.39, 4.40 and 4.41.

***TABLE4. 37: (Q.no.17) I am very satisfied with AMW Marketing Activities*.**

Response	Frequency	Percent	Cumulative percent
Strongly agree	46	24	24
Agree	72	37	61
Undecided	8	4	65
Disagree	48	25	90
Strongly disagree	19	10	100
Total	**193**	**100**	

Source: Field Survey, 2012.

Of the 193 respondents, 118 (61%) agreed that they are satisfied with AMW marketing activities while 75 (39%) did not agree.

TABLE 4.38: (Q.no.18) I wish more of my Suppliers were like AMW

Response	Frequency	Percent	Cumulative percent
Strongly agree	64	33	33
Agree	87	45	78
Undecided	4	2	80
Disagree	29	15	95
Strongly disagree	9	5	100
Total	**193**	**100**	

Source: Field Survey, 2012.

Out of 193 respondents, 151 (78%) agreed that they would wish more of their suppliers were like AMW while 42 (22%) could not wish that as shown in the table.

TABLE 4.39: (Q.no.19) It is a pleasure dealing with AMW

Response	Frequency	Percent	Cumulative percent
Strongly agree	77	40	40
Agree	75	39	79
Undecided	6	3	82
Disagree	26	13	95
Strongly disagree	9	5	100
Total	**193**	**100**	

Source: Field Survey, 2012.

Seventy nine percent (79%) of the respondents basically agreed that it is a pleasure dealing with AMW while 41 (21%) did not agree as shown in the table.

TABLE4. 40: Consolidated responses to Qs 17, 18 and 19 attached to #2 to #5 Objectives, Research Questions and Hypotheses- Dependent Variable-Overall Customer Satisfaction

Response	Table 4.39	Table 4.40	Table 4.41	Total	% Response
Strongly agree	46	64	77	187	32
Agree	72	87	75	234	41
Undecided	8	4	6	18	3
Disagree	48	29	26	103	18
Strongly disagree	19	9	9	37	6
Total	**193**	**193**	**193**	**579**	**100**

Source: Field Survey, 2012.

Responses to the three questions on satisfaction which were analyzed in tables 4.39, table 4.40 and table 4.41 were consolidated to yield table 4.42. Dependent Variable (Overall Customer Satisfaction).

Generally, satisfaction questions yielded a high number of positive responses from respondents. There was a slight difference in figures for those who strongly agreed and those who agreed and they are more than 72% of the respondents. We can therefore conclude that customers are generally quite satisfied with AMW physical distribution service.

4.2.12. Analysis of Questions Related to Research question #6

Research Question #6: How important are the various physical distribution service elements to customer and how does AMW performances on these elements compare to that of its major competitor?

Analysis of questions #20 and 22 in the questionnaire yielded tables 4.43, 4.44 and 4.46 on importance rankings and performance of AMW and its major competitor related to research question #6.

TABLE 4.41: (Q.no.20) Importance Ranking of the Four (4) Physical Distributions Service (PDS) Elements by the Staff.

PDS Elements	Importance				Total Score	Mean	%	Ranking
	VI 4	I 3	SWI 2	NSI 1				
Product Availability	17	6	0	0	86	3.7	92.5	1
PDS Timeliness	3	2	16	2	52	2.3	57.5	3
PDS Quality	3	15	5	0	67	2.9	62.5	2
PDS Flexibility	0	0	2	21	25	1.1	27.5	4

Source: Field Survey, 2012.

Rating Scale:

Very Important (VI) = 4

Important (I) = 3

Somewhat Important (SWI)= 2

Not so Important (NSI) = 1

Out of a total of 23 staff respondents, 17 respondents representing 74% ranked Product Availability as the most important physical distribution service (PDS) element for soft drink industry, 3 respondents representing 13% ranked PDS timeliness as the most important and 3(13%) others ranked PDS quality as the most important.

Generally, using the mean scores the staff ranked Product Availability as the most important, ranked PDS Quality- second, PDS Timeliness- third and PDS Flexibility- fourth.

***TABLE 4.42: (Q.no.20) Importance Ranking of the Four (4) Physical Distributions Service (PDS) Elements by the Customers*.**

PDS Elements	**Importance**				**Total Score**	**Mean**	**%**	**Ranking**
	VI 4	**I** 3	**SWI** 2	**NSI** 1				
Product Availability	98	70	2	0	606	3.6	90	1
PDS Timeliness	72	97	1	0	581	3.4	85	2
PDS Quality	0	0	22	148	192	1.1	28	4
PDS Flexibility	0	3	145	22	312	1.8	45	3

Source: Field Survey, 2012.

Rating Scale:

Very Important (VI) = 4

Important (I) = 3

Somewhat Important(SWI) = 2

Not so Important (NSI) = 1

Out of a total of 170 customer respondents, 98 respondents representing 58% ranked Product Availability as the most important PDS element, 72(42%) respondents ranked PDS timeliness as the most important. When the mean values for the PDS elements rankings were used the results of the PDS elements rankings were Product Availability- first. PDS Timeliness- second, PDS Flexibility- third and PDS Quality- fourth.

It was noted that there were enough differences between company rankings and customer rankings which supports the need for this type of research. Hence, AMW physical distribution service should be customer-driven.

TABLE4. 43: (Q.no.21) Response on whether AMW Customers Buy from AMW Major Competitor in Soft Drink Industry in Bole sub city.

Responses	Frequency	Percent	Cumulative percent
Yes	149	88	88
No	21	12	100
Total	**170**	**100**	

Source: Field Survey, 2012.

Out of 170 customer respondents, 149 (88%) also buy from AMW major competitor, hence the need for a differential advantage through physical distribution service.

TABLE 4.44: (Q.no.22) Performance Rating of AMW and the Major Competitor on the Four (4) PD Service Elements by Customers.

Major Competitor							PD Service Elements	NBC						
%	Mean	Total	P 1	F 2	G 3	E 4		E 4	G 3	F 2	P 1	Total	Mean	%
83	3.3	560	0	21	78	71	Product Availability	87	79	4	0	593	3.5	88

80	3.2	542	1	26	83	60	PDS Timeliness	80	87	3	0	587	3.5	88
83	3.3	561	1	11	98	61	PDS Quality	69	99	1	0	575	3.4	85
73	2.9	496	2	40	98	30	PDS Flexibility	50	87	27	6	521	3.1	78
80	3.2	2159	4	196	1071	888	Total	1144	1056	70	6	2276	3.4	85

Source: Field Survey, 2012.

Rating Scales:-

Excellent (E) = 4

Good (G) = 3

Fair (F) = 2

Poor (P) = 1

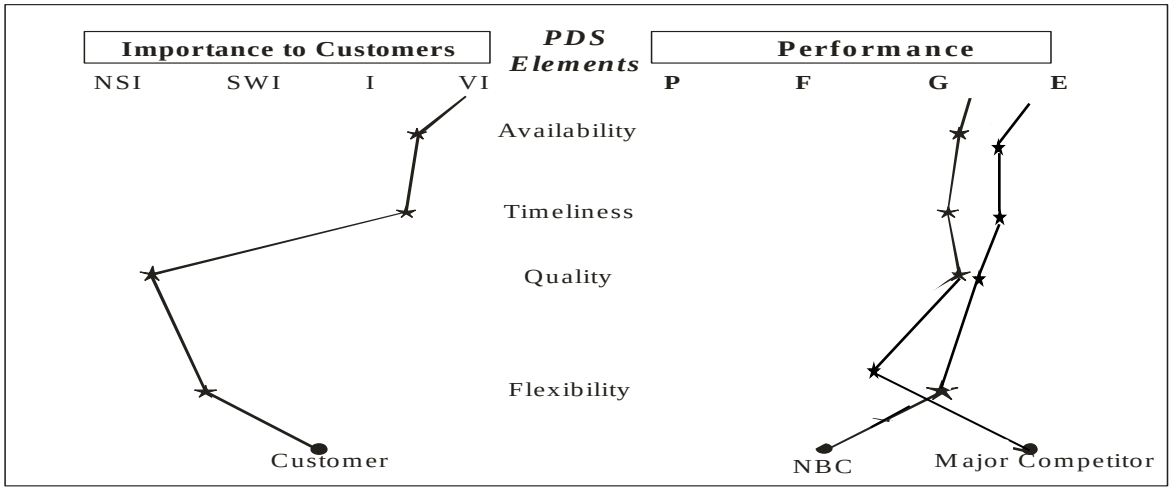

Figure 4. 23: Competitive benchmarking showing opportunities for improving service when comparisons are made with customer requirements and the performance of key competitor

Table 4.46 and figure 4.23 show the performance rating of AMW and its major competitor on the four (4) physical distribution service elements. The figure which was plotted from table 4.44 and table 4.46 also shows how important the service elements are to the customers. AMW performed better than the major competitor in all the service dimensions listed.

However, there are opportunities for improvement especially of the PDS Flexibility aspect of the service dimensions which AMW scored the least, but ranked third by the customers as shown in table 4.44.

4.3 Test of Hypotheses

The various hypotheses for this study were tested with the aid of the SPSS 17.0 statistical software. The following steps were taken;

i. Restatement of the hypotheses in the null and alternate forms
ii. Reference to the data for analysis
iii. The decision rule
iv. Taking the decision.

4.3.1 Test of Hypotheses One

Restatement of the hypothesis in the null and alternate forms

$H_0$1: There is no significant relationship between performance of physical distribution activities and perceived physical distribution service

H_a1: There is significant relationship between performance of physical distribution activities and perceived physical distribution service

The data presented in table 4.38 physical distribution activities and table 4.37 perceived physical distribution service were used to test this hypothesis.

TABLE 4.45: Descriptive Statistics for data presented in tables 4.38 and 4.37

	Mean	**Std. Deviation**	**N**
Performance of Physical Distribution Activities	1.7785	1.24085	772
Perceived physical distribution service	1.9041	1.40820	772

TABLE4. 46: Pearson correlations test result for hypothesis one

		Performance of Physical Distribution Activities	**Perceived Physical Distribution Services**
Performance of Physical Distribution Activities	Pearson Correlation	1	.977(**)
	Sig. (2-tailed)		.000
	N	772	772
Perceived Physical Distribution Service	Pearson Correlation	.977(**)	1
	Sig. (2-tailed)	.000	
	N	772	772

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

Table 4.47 shows the descriptive statistics of the relationship between performance of physical distribution activities and perceived physical distribution service, with a mean response of 1.7785 and std. deviation of 1.24085 for physical distribution activities and a mean response of 1.9041 and std. deviation of 1.40820 for perceived physical distribution service. By careful observation of standard deviation values, it can be said that there is about the same variability of data points amongst the dependent and independent variables.

Table 4.48 is the Pearson correlation coefficient matrix of the relationship between performance of physical distribution activities and perceived physical distribution service, showing the correlation coefficient, significant values and the number of cases. The correlation coefficient shows 0.977**. This value indicates that correlation is significant at 0.05 level (2tailed) and implies that there is a positive relationship between performance of physical distribution activities and perceived physical distribution service (r = .977).

The Decision Rule;

If the significant/probability value (PV) <0.05 = Reject H_0

If the significant/probability value (PV) >0.05 = Accept H_0

Decision

The computed correlations coefficient is greater than the table value of r = .195 with 770 degrees of freedom (df. = n-2) at alpha level for a two-tailed test (r = .977, p< .05). This result indicates that there is a positive relationship between performance of physical distribution activities and perceived physical distribution service. The significant/probability value (PV) = 0.000<0.05. Therefore, the researcher rejects the null hypothesis and concludes that there is a significant relationship between performance of physical distribution activities and perceived physical distribution service. The double (**) in table 4.48 shows that the correlation coefficient is even significant at 0.01 level of significance.

4.3.2 Test of Hypothesis Two

Restatement of the hypothesis in the null and alternate forms

$H_0$2: There is no significant relationship between product availability and overall customer satisfaction.

H_a2: There is significant relationship between product availability and overall customer satisfaction.

The data presented in table 4.33 Product Availability and table 4.42 overall customer satisfaction were used to test this hypothesis

TABLE4. 47: Descriptive Statistics for data presented on tables 4.33 and 4.42

	Mean	**Std. Deviation**	**N**
Product Availability	2.2556	1.25624	579
Overall Customer Satisfaction	2.3282	1.29656	579

TABLE4. 48: Pearson Correlations Test Result for Hypothesis Two

		Product Availability	**Overall Customer Satisfaction**
Product Availability	Pearson Correlation	1	.958(**)
	Sig. (2-tailed)		.000
	N	579	579
Overall Customer Satisfaction	Pearson Correlation	.958(**)	1
	Sig. (2-tailed)	.000	
	N	579	579

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

Table 4.49 shows the descriptive statistics of the relationship between product availability and overall customer satisfaction, with a mean response of 2.2556 and std. deviation of 1.25624 for product availability and a mean response of 2.3282 and std. deviation of 1.29656 for overall customer satisfaction. By careful observation of standard deviation values, it can be said that

there is about the same variability of data points amongst the dependent and independent variables.

Table 4.50 is the Pearson correlation coefficient matrix of the relationship between product availability and overall customer satisfaction, showing the correlation coefficient, significant values and the number of cases. The correlation coefficient shows 0.958. This value indicates that correlation is significant at 0.05 level (2tailed) and implies that there is a positive relationship product availability and overall customer satisfaction (r = .958).

The Decision Rule;

If the significant/probability value (PV) <0.05 = Reject H_0

If the significant/probability value (PV) >0.05 = Accept H_0

Decision

The computed correlations coefficient is greater than the table value of r = .195 with 577 degrees of freedom (df. = n-2) at alpha level for a two-tailed test (r = .958, p< .05). This result indicates that there is a positive relationship between product availability and overall customer satisfaction. The significant /probability value (PV) = 0.000<0.05. Therefore, the researcher rejects the null hypothesis and concludes that there is a significant relationship between product availability and overall customer satisfaction. The double (**) in table 4.48 shows that the correlation coefficient is even significant at 0.01 level of significance.

4.3.3 Test of Hypothesis three

Restatement of the hypothesis in the null and alternate forms

$H_0$3: There is no significant relationship between PDS timeliness and overall customer satisfaction.

H_a3: There is significant relationship between PDS timeliness and overall customer satisfaction.

The data presented in table 4.34 PDS Timeliness and table 4.42 Overall Customer Satisfaction were used to test this hypothesis.

TABLE4. 49: Descriptive Statistics for data presented in tables 4.34 and 4.42

	Mean	Std. Deviation	N
PDS Timeliness	2.0069	1.15867	579
Overall Customer Satisfaction	2.3282	1.29656	579

TABLE4. 50: Pearson Correlations Test Result for Hypothesis Three

		PDS Timeliness	Overall Customer Satisfaction
PDS Timeliness	Pearson Correlation	1	.883(**)
	Sig. (2-tailed)		.000
	N	579	579
Overall Customer Satisfaction	Pearson Correlation	.883(**)	1
	Sig. (2-tailed)	.000	
	N	579	579

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

Table 4.51 shows the descriptive statistics of the relationship between PDS timeliness and overall customer satisfaction, with a mean response of 2.0069 and std. deviation of 1.15867 for PDS timeliness and a mean response of 2.3282 and std. deviation of 1.29656 for overall customer satisfaction. By careful observation of standard deviation values, it can be said that there is about the same variability of data points amongst the dependent and independent variables.

Table 4.52 is the Pearson correlation coefficient matrix of the relationship between PDS timeliness and overall customer satisfaction, showing the correlation coefficient, significant values and the number of cases. The correlation coefficient shows 0.883. This value indicates

that correlation is significant at 0.05 level (2tailed) and implies that there is a positive relationship between PDS timeliness and overall customer satisfaction (r = .883).

The Decision Rule;

If the significant/probability value (PV) <0.05 = Reject H_0

If the significant/probability value (PV) >0.05 = Accept H_o

Decision

The computed correlations coefficient is greater than the table value of r = .195 with 577 degrees of freedom (df. = n-2) at alpha level for a two-tailed test (r = .883, p< .05). This result indicates that there is a positive relationship between timeliness and customer satisfaction. The significant /probability value (PV) = 0.000<0.05. Therefore, the researcher rejects the null hypothesis and concludes that there is a significant relationship between PDS Timeliness and overall customer satisfaction. The double (**) in table 4.48 shows that the correlation coefficient is even significant at 0.01 level of significance.

4.3.4 Test of Hypothesis four

Restatement of the hypothesis in the null and alternate forms

$H_0$4: There is no significant relationship between PDS quality and overall customer satisfaction.

H_a4: There is significant relationship between PDS quality and overall customer satisfaction.

The data presented in table 4.35 PDS Quality and table 4.42 Overall Customer Satisfaction were used to test this hypothesis.

TABLE 4.51: Descriptive Statistics for Data Presented in Tables 4.35 and 4.42

	Mean	Std. Deviation	N
PDS Quality	2.4905	1.41952	579
Overall Customer satisfaction	2.3282	1.29656	579

TABLE 4.52: Pearson Correlation Test Result for Hypothesis Four

		Quality	Customer Satisfaction
PDS Quality	Pearson Correlation	1	.790(**)
	Sig. (2-tailed)		.000
	N	579	579
Overall Customer Satisfaction	Pearson Correlation	.790(**)	1
	Sig. (2-tailed)	.000	
	N	579	579

**

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

Table 4.54 shows the descriptive statistics of the relationship between PDS quality and overall customer satisfaction, with a mean response of 2.4905 and std. deviation of 1.41952 for PDS quality and a mean response of 2.3282 and std. deviation of 1.29656 for overall customer satisfaction. By careful observation of standard deviation values, it can be said that there is about the same variability of data points amongst the dependent and independent variables.

Table 4.54 is the Pearson correlation coefficient matrix of the relationship between PDS quality and overall customer satisfaction, showing the correlation coefficient, significant values and the number of cases. The correlation coefficient shows 0.790. This value indicates that correlation is

significant at 0.05 level (2tailed) and implies that there is a positive relationship between PDS quality and overall customer satisfaction (r = .790).

The Decision Rule;

If the significant/probability value (PV) <0.05 = Reject H_0

If the significant/probability value (PV) >0.05 = Accept H_0

Decision

The computed correlations coefficient is greater than the table value of r = .195 with 577 degrees of freedom (df. = n-2) at alpha level for a two-tailed test (r = .790, p< .05). This result indicates that there is a positive relationship between PDS quality and overall customer satisfaction. The significant /probability value (PV) = 0.000<0.05. Therefore, the researcher rejects the null hypothesis and concludes that there is a significant relationship between PDS quality and overall customer satisfaction. The double (**) in table 4.48 shows that the correlation coefficient is even significant at 0.01 level of significance.

4.3.5 Test of Hypothesis five

Restatement of the hypothesis in the null and alternate forms

$H_0$5: There is no significant relationship between PDS flexibility and overall customer satisfaction.

H_a5: There is significant relationship between PDS flexibility and overall customer satisfaction.

The data presented in table 4.36 PDS Flexibility and table 4.42 Overall Customer Satisfaction were used to test this hypothesis

TABLE4. 53: Descriptive Statistics for Data Presented in Tables 4.36 and 4.42

	Mean	Std. Deviation	N
PDS Flexibility	2.6580	1.38472	579
Overall Customer Satisfaction	2.3282	1.29656	579

TABLE 4.54: Pearson Correlations Test Result for Hypothesis Five

		PDS Flexibility	**Overall Customer Satisfaction**
PDS Flexibility	Pearson Correlation	1	.784(**)
	Sig. (2-tailed)		.000
	N	579	579
Overall customer satisfaction	Pearson Correlation	.784(**)	1
	Sig. (2-tailed)	.000	
	N	579	579

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

Table 4.55 shows the descriptive statistics of the relationship between PDS flexibility and overall customer satisfaction, with a mean response of 2.6580 and std. deviation of 1.38472 for PDS flexibility and a mean response of 2.3282 and std. deviation of 1.29656 for overall customer satisfaction. By careful observation of standard deviation values, it can be said that there is about the same variability of data points amongst the dependent and independent variables.

Table 4.56 is the Pearson correlation coefficient matrix of the relationship between PDS flexibility and overall customer satisfaction, showing the correlation coefficient, significant values and the number of cases. The correlation coefficient shows 0.784. This value indicates that correlation is significant at 0.05 level (2tailed) and implies that there is a positive relationship between PDS flexibility and overall customer satisfaction (r = .784).

The Decision Rule;

If the significant/probability value (PV) <0.05 = Reject H_0

If the significant/probability value (PV) >0.05 = Accept H_0

Decision

The computed correlations coefficient is greater than the table value of r = .195 with 579 degrees of freedom (df. = n-2) at alpha level for a two-tailed test (r = .784, p< .05). This result indicates that there is a positive relationship between PDS flexibility and overall customer satisfaction. The significant /probability value (PV) = 0.000<0.05. Therefore, the researcher rejects the null hypothesis and concludes that there is a significant relationship between PDS Flexibility and overall customer satisfaction. The double (**) in table 4.48 shows that the correlation coefficient is even significant at 0.01 level of significance.

4.4 Discussion of Findings

This section discusses the main findings of the research and makes comparisons with findings of previous researches. The section began with a brief discussion of the overall findings before going on to discuss the main findings based on the objectives of the study.

As suggested from the overall findings, most customers are satisfied with PDS of AMW and they are happy to be in business with AMW and wished more of their suppliers were like AMW. Generally, AMW product availability, PDS timeliness, PDS flexibility and PDS quality are better than those of the key competitor. However, there are opportunities for improvement especially on the PDS flexibility it scored the least mark.

Objective 1: To evaluate the relationship between performance of physical distribution activities and perceived physical distribution service.

The finding that there is significant relationship between performance of PD activities and perceived PD service supports the theoretical framework of Mentzer et al (2009:60) that there should be relationships between PD activities performed and perception of PD benefits received. The strength of this relationship (r = .977) indicates the extent of impact effective and efficient performance of PD activities can make on perceived PD service and overall customer satisfaction.

Objective 2: To ascertain the relationship between product availability and overall customer satisfaction

The finding that there is significant relationship between product availability and overall customer satisfaction supports the marketing theory, which says that customer service

expectations compared to perceived customer service performance affect satisfaction. The strength of the relationship (r = .958) shows the extent of the impact product availability, which was measured in terms of in-stock rate and percent orders, units and lines filled will make on overall customer satisfaction. This relationship will greatly affect intention to buy.

Objective 3: To determine the relationship between PDS timeliness and overall customer satisfaction.

The finding that there is a significant relationship between PDS timelines and overall customer satisfaction supports Johnson and Gustatson (2000:50) finding that customer satisfaction is customer's overall evaluation of the purchase and consumption experience with a product, service or provider.

The strength of this relationship (r = .883) which PDS timelines, measured in terms of order cycle time, average delivery time and consistent delivery, has with overall customer satisfaction will immensely influence purchase decisions.

Objective 4: To examine the relationship between PDS quality and overall customer satisfaction.

The finding that there is significant relationship between PD service quality and overall customer satisfaction also supports Johnson and Gustatson (2000:50) who found out that customer satisfaction is customers' over all evaluation of the purchase and consumption experience with a product, service or provider.

The strength of relationship (r = .790) PD service quality measured in terms of minimum damage in transit, and order filling accuracy has with overall customer satisfaction indicates the extent of impact it makes on overall customer satisfaction.

Objective 5: To identify the relationship between PDS flexibility and overall customer satisfaction.

The finding that there is significant relationship between PDS flexibility and overall customer satisfaction supports substantially Manders (2009:1) finding that physical distribution flexibility has a significant positive impact on customer satisfaction. Manders' study took place in Netherlands with manufacturing companies producing technical products as units of analysis hence the need to confirm the study finding in Nigeria using company in Fast Moving Consumer Goods (FMCGs) sector. The Strength of relationship (r = .784) PD service flexibility measured

in terms of flexible order policies, expedite and substitute capacity, and meeting customers' special needs, has with overall customer satisfaction indicates the degree of impact it can make on customer satisfaction.

Objective6. To ascertain the relative importance of each physical distribution service variable and benchmark the performance level.

The finding that the relative importance of PD service elements as ranked by customers in this order;

Product availability 1st

PDS timeliness 2nd

PDS flexibility 3rd

PDS Quality. 4th

This indicates the importance ratings or relative degree of importance customers attach to the various PDS elements.

This finding agrees with the finding of Mentzer et al (2009:57) which identifies the relative importance of PD service elements to purchase decision as;

Availability 1st

Timeliness 2nd

Quality 3rd

The only difference is that the present study considered four (4) PDS elements and the fourth element PDS flexibility displaced "Quality" in order of importance to customers. The impact of each PDS element on customer satisfaction and purchase decision depends on its relative importance to the customer.

The result of mapping the relative importance of PD service elements to customers against the service performances of AMW and its key competitor indicates that balancing a

responsiveness to customer service requirements on one hand with direct competitor service offerings comparison on the other hand is a logical basis for setting customer service standards in a competitive environment.

4.5 Summary

The findings of the study show that effective and efficient performance of PD activities will lead to better PD service which will invariably result in overall customer satisfaction and customer loyalty. These findings collaborate with existing literature.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

The study examined the effect of effective and efficient performance of physical distribution activities- transportation, warehousing, inventory control and order processing on PD service performance or outcome measured in terms of product availability, PDS timeliness, PDS quality and PDS flexibility and how these service elements in turn impact on overall customer satisfaction. The researcher surveyed a cross section of commercial staff, distributors and major retailers of Ambo mineral water (AMW) Plc in bole sub city.

The findings will assist companies especially those in Fast Moving Consumer Goods (FMCGs) sector gain competitive advantage as it becomes more difficult for them to compete on pure product level.

5.2 Summary of Findings

The study made the following findings;

1. PDS activities-transportation, warehousing, inventory control and order processing-performance affect PD service-in-stock rate and percent orders, units, lines filled, order cycle time, average delivery time, consistent delivery, damage in-transit, order filling accuracy, order policies, capacity to meet and actually meeting customers' special needs.
2. Product availability- in-stock rate and percent orders, units and lines filled-significantly affect overall customer satisfaction.
3. PDS timeliness- order cycle time, average delivery time and consistent delivery-have significant effect on overall customer satisfaction.
4. PDS quality- minimum damage in-transit, and order filling accuracy significantly affect overall customer satisfaction.
5. PDS flexibility- flexible policies expedite and substitute capacity and meeting customers' special needs-have significant effect on overall customer satisfaction.
6. The PDS elements relative importance to purchase decision ranking by customers in descending order of importance were product availability, PDS timeliness, PDS

flexibility and PDS quality while the staff of the company ranking was product availability, PDS timeliness, PDS quality and PDS flexibility.

7. AMW performed better than the major competitor in all the PD service elements examined.
8. Determination of customer service requirements and competitor's service offerings was found to be a more logical basis for setting customer service level in a competitive environment.

5.3 Conclusion

Effective and efficient performance of physical distribution activities will lead to better physical distribution service which will in turn transcend to overall customer satisfaction. The resulting customer satisfaction will positively influence customer purchase decision and translate into competitive advantage and profit for the company.

5.4 Recommendations

1. Physical distribution activities- transportation, warehousing, inventory control, order processing etcetera -should be managed effectively and efficiently using innovative methods like 3-pL providers, local distribution centers, Just-in-Time (JIT), stockless distribution, computerized on-line, real time order processing system and total cost concept.
2. Customer perceptions of the physical distribution service performance should be measured periodically to ensure that the management of PD activities leads to the desired results in terms of product availability, PDS timeliness, PDS flexibility and PDS quality.
3. Customer satisfaction with product availability, PDS timeliness, PDS flexibility, PDS quality and their relative importance to purchase decision should be measured periodically for necessary feedback and control.
4. Determination of customer service requirements and competitors service offerings should be used as a more logical basis for setting customer service level in a competitive environment.

Contribution to Knowledge

This is seemingly the first empirical study in which a comprehensive model of conceptual customer service/satisfaction was tested to show the significant relationship effective and efficient performance of physical distribution activities has with perception of physical distribution service performance and how this perception is related to customer satisfaction. Based on these findings, the relative importance of the PD service elements to customers was established and the performance of the company and its key competitor on these service elements compared. Consequently, a model of market-driven customer service standards was developed.

BIBLIOGRAPHY

Alasiri, W. A. and Cole, A. A. (2001), Service Marketing: Principles and Practice, Lagos: Ade-Ola Printing press Ltd.

Alexa Research (2000), Web Intelligence and Traffic Measurement, USA

Anderson, J.C. and Narus, J.A. (2000), "*A Model of the Distributor's Perspective of Distributor–Manufacturer Working Relationship". Journal of Marketing, Volume 48, Fall, 62-74.*

Andreas, E and Wolfgang U. (2002), "Perceived value, The Core of Marketing", *Journal of Business and Industrial Marketing,* Volume 17, Number 2, 107-118.

Anyanwu, Aham and Nwokah, Gladson N. (2008), *Contemporary Book on Services Marketing*, Owerri: Avan Global Publications.

Armstrong, G. and Kotler, P. (2009), *Marketing: An Introduction, 9th Ed.* New Jersey, Pearson Education Inc.

Ballon, R.H. (2001), Basic Business Logistics: Transportation, Material Management, Distribution, 2nd Ed., Englewood Cliff NJ Prentice-Hall.

Bertowitz, EN, Kerim, R.A., Hartley, S.W. and Rudelins, W. (2000), *Marketing, 6th Ed.,* USA: The McGraw Hill Companies Inc.

Bonoma, T. and Johnson, W.J. (1990), *"The Social Psychology of Industrial Buying and Selling", Industrial Marketing Management,* Volume 1, Number 17, 213-224.

Boone, L.E. and Johnson, J.C. (1990), *Marketing Channels 2nd Ed.* Oklahoma: Petroleum Publishing Company.

Boone, L.E. and Kurtz, D.L. (2004), *Contemporary Marketing,* 11th Ed. Ohio, South-West: Thomas Learning.

Bowersox, D.J. and Cooper, M.B. (1992), *Strategic Marketing Channel Management*, Singapore: McGraw – Hill Book Company.

Bucklin, L.P. (1990) "A Theory of Channel Control" *Journal of Marketing Volume 37, Number 1,* January 39-47.

Chu, R.,(2002). "Stated-importance versus Derived Importance: Customer Satisfaction Measurement", *Journal of Service Marketing*, Volume 16, Number 4, January, 285-301.

Converse P.D. (1945) '*The Development of the Science of Marketing – An Exploratory Survey', Journal of Marketing Volume* 10, July, 14-23, in D.G.B. Jones and E.H. Shaw 'A History of Schools of Marketing Thought http://ww.sagepublications.com Accessed 16 March, 2011 by 10.30pm, 10-21.

Coyle, J.J. and Bardi, E.J. (2000), *The Management of Business Logistics,* 2nd Ed., Minnesota: West Publishing Co.

Coyle, J.J., Bardi, J.E., and Largely, C.J. (2003), *The Management of Business Logistics: A Supply Chain Perspective 7th Ed.* Canada, South Western: Thomas Learning.

Cravens, D.W. and Woodruff, R.B. (2001), *Marketing, USA:* Addison – Wesley Publishing Company, Inc.

Doyle, P. (1994), *Marketing Management and Strategy*, London: Prentice Hall.

APPENDIX 1

Tables for Data Analysis

H01 Independent Variable

Table 4.38: Consolidated Responses to Qs 1, 2, 3 & 4 Attached to # 1 Objective, Research Question and Hypothesis- Independent Variable. (PD Activities)

Responses	Transportation	Ware housing	Inventory Control	Order Processing	Total	% Response
Strongly Agree	59	87	64	56	266	34
Agree	86	71	79	88	324	42
Undecided	5	6	3	7	21	3
Disagree	22	18	21	25	86	11
Strongly Agree	21	11	26	17	75	10
Total	**193**	**193**	**193**	**193**	**772**	**100**

$H0_1$ Independent Variable

H01 Dependent Variable

Table 4.37: Combined Consolidated Response in Tables 4.33, 4.34, 4.35 and 4.36 Attached to #1 Objective, Research Question and Hypothesis- Dependent Variable (Physical Distribution Service)

Response	Product Availability	PDS Timeliness	PDS Quality	PDS Flexibility	Total	% Responses
Strongly agree	206	238	167	141	752	32
Agree	229	223	221	198	871	38
Undecided	7	15	14	25	61	3
Disagree	67	78	94	149	388	7
Strongly agree	70	25	83	66	244	10

Total	**579**	**579**	**579**	**579**	**2316**	**100**

Table 4.33: Consolidated Response to Qs 5, 6 & 7 Attached to #2 Objective, Research Question and Hypothesis- Independent Variable. (Availability)

Response	Table 4.21	Table 4.22	Table 4.23	Total	% Response
Strongly agree	87	61	58	206	36
Agree	66	82	81	229	39
Undecided	3	2	2	7	1
Disagree	21	23	23	67	12
Strongly Disagree	16	25	29	70	12
Total	**193**	**193**	**193**	**579**	**100**

H03 Independent Variable

Table 4.34: Consolidated Response to Qs 8, 9 & 10 Attached to #3 Objective, Research Question and Hypothesis- Independent Variable. (Timeliness)

Response	Table 4.24	Table 4.25	Table 4.26	Total	% Response
Strongly agree	87	76	75	238	41
Agree	64	82	77	223	39
Undecided	4	5	6	15	3
Disagree	29	23	26	78	14
Strongly agree	9	7	9	25	4
Total	**193**	**193**	**193**	**579**	**100**

H04 Independent Variable

Table 4.35: Consolidated Response to Qs 11, 12 & 13 Attached to #4 Objective, Research Question and Hypothesis- Independent Variable. (Quality)

Response	Table 4.27	Table 4.28	Table 4.29	Total	% Response
Strongly agree	73	43	51	167	29
Agree	71	78	72	221	38
Undecided	4	3	7	14	3
Disagree	25	24	25	94	16
Strongly agree	20	25	38	83	14
Total	**193**	**193**	**193**	**579**	**100**

H05 Independent Variable

Table 4.36: Consolidated Response to Qs 14, 15 & 16 Attached to #5 Objective, Research Question and Hypothesis- Independent Variable. (Flexibility)

Response	Table 4.30	Table 4.31	Table 4.32	Total	% Response
Strongly agree	33	46	62	141	24
Agree	68	73	57	198	34
Undecided	7	10	8	25	4
Disagree	64	43	42	149	26
Strongly agree	21	21	24	66	12
Total	**193**	**193**	**193**	**579**	**100**

H02 - H05 Dependent Variable

Table 4.42: Consolidated response to Qs 17, 18 and 19 attached to #2 to #5 Objectives, Research Questions and Hypothesis- Dependent Variable-Customer Satisfaction

Response	Table 4.39	Table 4.40	Table 4.41	Total	% Response
Strongly agree	46	64	77	187	32
Agree	72	87	75	234	56
Undecided	8	4	6	18	3
Disagree	48	29	26	103	18
Strongly disagree	19	9	9	37	6
Total	**193**	**193**	**193**	**579**	**100**

Rating Scales:-

Strongly agree - 5

Agree - 4

Undecided - 3

Disagree - 2

Strongly agree - 1

APPENDIX 2

QUESTIONNAIRE FOR THE STAFF OF THE ORGANISATION.

Department of Marketing

Faculty of Business Administration

St marry university

8th April, 2012.

Dear Sir,

QUESTIONNAIRE FOR COMPLETION

I am a graduate student in the above named University, carrying out a research work on "Effect of Physical Distribution and customer satisfaction" as part of the requirements for the Award of Master of Science Degree in Marketing.

Please assist me by completing the attached questionnaire. I assure you that all information given will be used for academic purpose only and will be treated with utmost confidentiality.

Thank you for your assistance

Yours faithfully,

SELOME DENEKE

INSTRUCTION:

Please tick (√) where necessary on the option which you consider most appropriate

SECTION A: BIODATA

1. Gender? Male [ ] Female [ ]
2. Age? 30years & below [ ] 31-40 [ ]

   41-50 [ ] 51 & above [ ]
3. Educational Qualification?

   National Diploma & below[ ] HND/ B.Sc. [ ]

   Masters [ ] Ph.D. & above [ ]\
4. Number of years with the organization? 0-5 years [ ]

   6-10 years [ ] 11-15 years [ ] 16 years/above [ ]
5. Grade level ?

   Below Supervisor [ ] Supervisor [ ] Manager and above [ ]

SECTION B:

Please indicate your level of agreement or disagreement with the following statements about **Physical Distribution System** with regard to what is obtainable in Ambo mineral water (AMW) Plc by ticking (√) in the appropriate box.

S/N	Physical Distribution Activities	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	AMW distribution trucks/vans are adequate, functional and well-coordinated.					
2	AMW warehouses are adequate and strategically					

	located.					
3	AMW maintains adequate inventory size and mix.					
4	AMW has computerized, online, real time order processing system.					
	Physical Distribution Service Elements.					
	Product availability					
5	The assorted products (mix) are always in stock.					
6	The units ordered are (100%) supplied.					
7	All orders are (100%) supplied.					
	PDS timeliness					
8	The time it takes AMW to supply from receipt of order is right.					
9	The average delivery time is reliable.					
10	The percent units delivered in specified time period is consistent.					

	PDS quality					
11	The percent units received in acceptable condition is right.					
12	The units that are supplied (100%) are correct units.					
13	The units that are delivered (100%) are in correct quantity.					
	PDS flexibility					
14	AMW order policies are flexible enough to permit timely response to changing market demands.					
15	AMW has expedite and substitute capacity to respond to special customer requests.					
16	AMW responds timely to special requests or unexpected needs of customers.					
	Overall customer Satisfaction					
17	I am very satisfied with AMW marketing activities.					

18	I wish more of my suppliers were like AMW.					
19	It is a pleasure dealing with AMW.					

20. How would you rank the importance of these physical distribution service elements to you? Please rank each physical distribution element from 1 to 4 with 4 being the most important and 1 being the least important. There should be no ties; rank each element with a different number.

S/N	**Physical Distribution Service Elements**	**Ranking**
1	Product availability	
2	PDS timeliness	
3	PDS quality	
4	PDS flexibility	

21. Companies at times experience excess stock or stock-outs. Does your company experience this? (a) Yes [ ] (b)No [ ]

22. If your answer is "yes" how often does your company experience it?

(a) Very often [ ] (b) often [ ] (c) Rarely [ ]

(d) Very rarely [ ]

23. What factors were responsible for the stock-outs?

(a) Raw material [ ] (b) Power supply [ ]

(c) Transportation [ ] (d) Others [ ]

APPENDIX 3

QUESTIONNAIRE FOR DISTRIBUTORS AND RETAILERS.

Department of Marketing

Faculty of Business Administration

ST Marry University

8th April, 2012.

Dear Sir,

QUESTIONNAIRE FOR COMPLETION

I am a graduate student in the above named University, carrying out a research work on "Effect of Physical Distribution and customer satisfaction" as part of the requirements for the Award of Master of Science Degree in Marketing.

Please assist me by completing the attached questionnaire. I assure you that all information given will be used for academic purpose only and will be treated with utmost confidentiality.

Thank you for your assistance

Yours faithfully,

SELOME DENEKE

INSTRUCTION:

Please tick (√) where necessary on the option which you consider most appropriate

SECTION A: BIODATA

1. Sex? Male [ ] Female [ ]

2. Age? 30years & below [ ] 31-40 [ ]

   41-50 [ ] 51 & above [ ]

3. Educational Qualification?

   National Diploma & below[ ] HND/ B.Sc. [ ]

   Masters [ ] Ph.D. & above[ ]

4. Occupation:? Farmer & Business [ ]

   Civil/ Public Servant [ ] Unemployed [ ]

SECTION B:

Please indicate your level of agreement or disagreement with the following statements about **Physical Distribution System** with regard to what is obtainable in Ambo mineral water (AMW) Plc by ticking (√) in the appropriate box.

S/N	Physical Distribution Activities	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	AMW distribution trucks/vans are adequate, functional and well-coordinated.					
2	AMW warehouses are adequate and strategically located.					
3	AMW maintains adequate					

	inventory size and mix.					
4	AMW has computerized, online, real time order processing system.					
	Physical Distribution Service Elements.					
	Product availability					
5	The assorted products (mix) are always in stock.					
6	The units ordered are (100%) supplied.					
7	All orders are (100%) supplied.					
	PDS timeliness					
8	The time it takes AMW to supply from receipt of order is right.					
9	The average delivery time is reliable.					
10	The percent units delivered in specified time period is consistent.					
	PDS quality					
11	The percent units received in acceptable condition is right.					
12	The units that are supplied (100%) are correct units.					

13	The units that are delivered (100%) are in correct quantity.					
	PDS flexibility					
14	AMW order policies are flexible enough to permit timely response to changing market demands.					
15	AMW has expedited and substitute capacity to respond to special customer requests.					
16	AMW responds timely to special requests or unexpected needs of customers.					
	Overall Customer Satisfaction					
17	I am very satisfied with AMW overall physical distribution service.					
18	I wish more of my suppliers were like AMW.					
19	It is a pleasure dealing with AMW.					

20. How would you rank the importance of these physical distribution service elements to you? Please rank each physical distribution element from 1 to 4 with 4 being the most

important and 1 being the least important. There can be no ties; rank each element with a different number.

S/N	Physical Distribution Service Elements	Ranking
1	Product availability	
2	PDS timeliness	
3	PDS quality	
4	PDS flexibility	

21. AMW major competitor in Enugu state is Moha Bottling Company:

Do you buy from this company? (a) Yes [ ] (b) No [ ]

22. How would you rate the performances of AMW and this major competitor on these physical distribution service elements based on your experience or information? Please thick the appropriate box.

Major Competitor				Physical Distribution Service Elements	AMW			
Poor	**Fair**	**Good**	**Excellent**		**Excellent**	**Good**	**Fair**	**Poor**
				Product availability				
				PDS timeliness				
				PDS quality				
				PDS flexibility				

23. Which of these business categories do you belong?

(a) Distribution/ wholesaler [ ]

(b) Retailer [ ]

24. How often are you supplied with AWM products?

(a) Twice a week [ ] (b) Weekly [ ]

(c) Every two week [ ] (d) monthly [ ]

25. Would you like to be supplied with AWM product more frequently?

(a) Yes [ ] (b) No [ ]

26. Have you been asked for any of AMW products but you did not have it to sell?

(a) Yes [ ] (b) No [ ]

27. If your answer is "yes" how often do you experience stock-outs?

(a) Very often [ ] (b) often [ ] (c) Rarely [ ]

(d) Very rarely [ ]

28. What factors were responsible for the stock-outs?

(a) Company factors [ ] (b) Customer factors [ ]

APPENDIX 4

PILOT STUDY REPORT (Customers)

	Questions	**Responses**				
S/N	**Physical Distribution Activities**	**SA 5**	**A 4**	**UD 3**	**D 2**	**S D 1**
1	AMW distribution trucks/vans are adequate, functional and well-coordinated.	7	3	1	3	1
2	AMW warehouses are adequate and strategically located.	8	2	1	4	-
	Physical Distribution Service Elements.					
	Product availability					
3	The assorted products (mix) are always in stock.	9	3	-	2	1
4	All orders are (100%) supplied.	6	5	-	3	1
	PDS Timeliness					
5	The time it takes AMW to supply from receipt of order is right.	5	7	2	1	-
	PDS Quality					
6	The percent units received in acceptable condition is right.	8	5	-	2	-
	PDS Flexibility					
7	AMW order policies are flexible enough to permit timely response to changing market demands.	5	6	2	1	1
8	AMW has expedited and substitute capacity to respond to	4	5	1	3	2

	special customer requests.					
	Customer Satisfaction					
9	I am very satisfied with AMW overall physical distribution service.	8	4	-	3	-
10	It is a pleasure dealing with AMW	7	6	1	1	-

Source: Field Survey 2012

PILOT STUDY REPORT (Staff)

	Questions	**Responses**				
S/N	**Physical Distribution Activities**	**SA 5**	**A 4**	**UD 3**	**D 2**	**S D 1**
1	AMW distribution trucks/vans are adequate, functional and well-coordinated.	8	4	-	3	-
2	AMW warehouses are adequate and strategically located.	9	5	-	1	-
	Physical Distribution Service Elements.					
	Product availability					
3	The assorted products (mix) are always in stock.	9	4	-	2	-
4	All orders are (100%) supplied.	5	6	-	4	-
	PDS Timeliness					
5	The time it takes AMW to supply from receipt of order is right.	6	8	1	-	-
	PDS Quality					
6	The percent units received in	8	4	1	2	-

	acceptable condition is right.					
	PDS Flexibility					
7	AMW order policies are flexible enough to permit timely response to changing market demands.	4	5	-	3	3
8	AMW has expedited and substitute capacity to respond to special customer requests.	3	5	1	2	4
	Customer Satisfaction					
9	I am very satisfied with AMW overall physical distribution service.	9	3	-	3	-
10	It is a pleasure dealing with AMW	8	5	1	1	-

Source: Field Survey 2012