

Inventory Control Effect on Profitability of a Business Organization

Orumie, Ukamaka Cynthia

Department of Mathematics/Statistics, University of Port Harcourt, Nigeria

Abstract: A survey on the effect of inventory control on profitability of a business organization was carried out on DUFIL Prima Foods Limited at Choba, Port Harcourt. Questionnaires were used to obtain the views of the workers on whether the profitability of a business organization depends on inventory control or not. In order to get the frequency and percentage of the responses, descriptive statistics were used, whereas the Chi-square test was used to test the hypothesis using Statistical Package for Social Sciences (SPSS) version 16. The graph showed that the age of staff within the range of 26-35 years recorded the highest number of respondents with majority of men who are married. Also they are mostly B.SC/HND holders with at least five years of experience. The Chi square results showed that inventory control affects the profit position of the company significantly. Also, result revealed dicates that inventory control determines when goods that have been exhausted from the store so that replacement can be made and that inventory control system of any organization will eventually affect the success of that organization.

Keywords: Survey, Business organization, Chi-square, Test of hypothesis

1. Introduction

Inventory is a physical stock of goods that a business organization have at hand for smooth running of its business. It is the quantity of available goods, raw materials or other resource (items) that are idle at any given time. They include company's raw materials; work in progress, supplies used in operations and finished goods, and these could be outdated, neglected, or imperfect shapes, sizes or even an imbalance in several product chains that affects customers request of the total activities.

Obviously, absence of control measures while carrying out action is wasting of time and resources. Irrespective of the economic melt down in Nigeria, where companies are shut down due to hike in prizes of importation, devaluation of the currency, high exchange rate, and many more, a good number of manufacturing companies that are presently in operation keep floating and maintain their standards. This is because of management such as inventory control which is crucial to all sectors of the economy since it requires the ability of the managerial team to consider when to increase or maintain stock levels in order not to miss her target.

The importance of inventory control system has been addressed by many authors like ; Sunil & Sameer (1998) who was able to summarise the issues surrounding inventory systems control.

Inventory models determines the Economic Order Quantity (EOQ) which optimizes the total cost inventory for that item, where as EOQ is a calculated re-order quantity which minimizes the balance of cost between carrying costs and ordering costs. This implies that there are some factors to take into consideration in the formulation of EOQ inventory model

And they are: how much to order, when to order, when item of stock is to be replenished and when to order.

Also, Osborne, and Plastrik, (1997) addressed the issues about utility of manufacturing inventory systems . He

pinpointed that a major management issue is determining the inventory control system's performance. They were of the opinion that manufacturing industry performance is determined by inventory carrying costs and turnover.

Silver (1981), Okoth (2012) and many others have also addressed inventory problems in a manufacturing company in different ways.

However the researcher wants to find out if inventory control will influence the profitability of a business organization, and to determine the extent at which it will be affected, and however determine the general effect of inventory control on a business organization using DUFIL Prima Foods Limited at Choba, Port Harcourt as a case study.

In section two, brief history of the company is described. Method of data collection is summarized in section three with SPSS result output obtained from data collected given in section four. Finally, section five summarizes the main conclusion.

2. Brief History of Indomie Company (DUFIL Prima Foods Limited Choba, Port Harcourt)

Indomie is a brand of noodle originated from Indonesia in 1971 by Sudono Salim; a Chinese Indonesian tycoon that also owned Bogasari flour mills. It is the largest instant noodle manufacturer in Indonesia with 72% of market share. It is distributed in Australia, Asia, Africa, New Zealand, the United States and European and Middle Eastern countries. (*euromonitor.com. of March 2014*)

In 1995, its first production factory in Nigeria was established under Dufil Prima Foods and it is the first instant noodles manufacturing plant in Nigeria and the largest in Africa.

However, De United Foods Industries Limited, Noodle Division, came into existence in 1996 at Ogun State with

about five hundred staff. Currently it has over one thousand five hundred staff.

DUFIL PRIMA FOODS PLC started its operation in 2001 as a private limited liability company at Choba, Port Harcourt, Rivers State. In 2008, The company was changed Public limited company and became the holding company of the group. Pure Flour Mills Limited, Flour Division, and Pasta Division, commenced at Choba In 2012, Port Harcourt, Rivers State.

3. Data Collection and Analysis

The data collection is limited to the staff of DUFIL Prima Foods Limited Choba, Port Harcourt. Data that were collected and analyzed for this research study were from primary source gathered from the questionnaires and information from personal interview conducted on workers of this company. The questionnaires are the only instrument that was used for evaluating and gathering of data. It was categorized into two parts; the first part covers the biographical data of the respondents, which includes but not limited to sex, age, marital status, and educational background of staff, whereas the other session are questions relating to the subject matter of the research.

Questionnaires were distributed to one hundred and twenty (120) staff, but only eighty (80) respondents returned theirs, out of which thirty (30) were invalid. Thus fifty (50) respondents formed the sample for this study while the population for the research is the entire staff of DUFIL Prima Foods Limited Choba, Port.

The results obtained from various analyses are presented in the various tables below as applied to the research questions.

Data analysis and output results

The data collected were analyzed using Statistical Package for Social Sciences (SPSS) version 16. In order to get the frequency and percentage of the responses, descriptive statistics were done while Chi square was used to test the hypotheses.

Table 4.1: Sex of respondents

Variables	No of Respondents	% of Respondents
Male	29	55
Female	21	45
Total	50	100

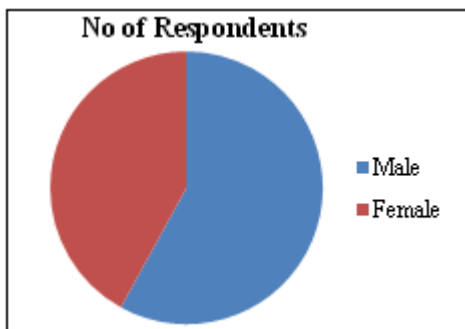


Figure 1: pie chart representation of the sex of respondents

Table 4.2: Marital status of respondents

Variables	No of Respondents	% of Respondents
Single	22	43
Married	28	57
Total	50	100

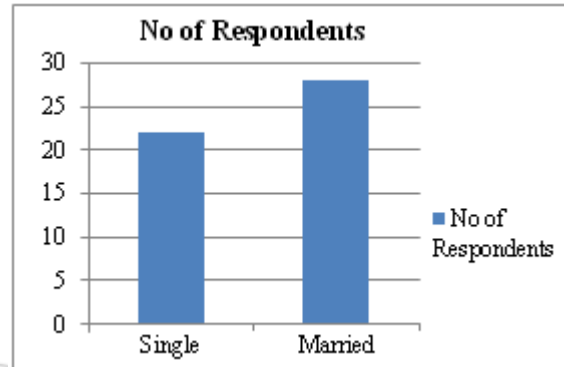


Figure 2: Bar chart representation of the marital status of respondents

Table 4.3: Age distribution of respondents

Interval	Frequency
16-25	15
26-35	20
36-45	10
45 and above	5

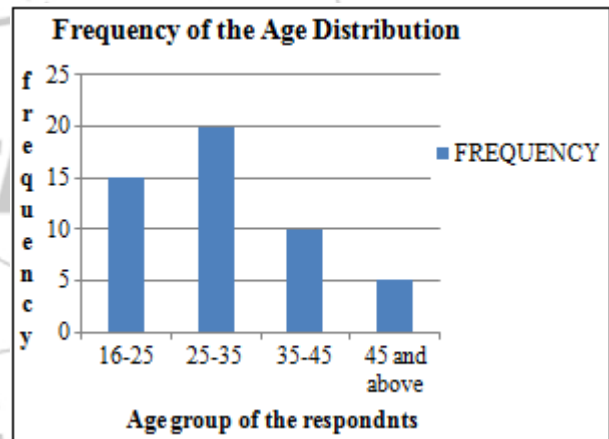


Figure 3: Age distributions of respondents

Table 4.4: Distribution of respondents based on status in the company

Variables	No of Respondents	% of Respondents
Management	16	32
Supervisory	14	28
Clerical	11	22
Others	9	18
Total	50	100

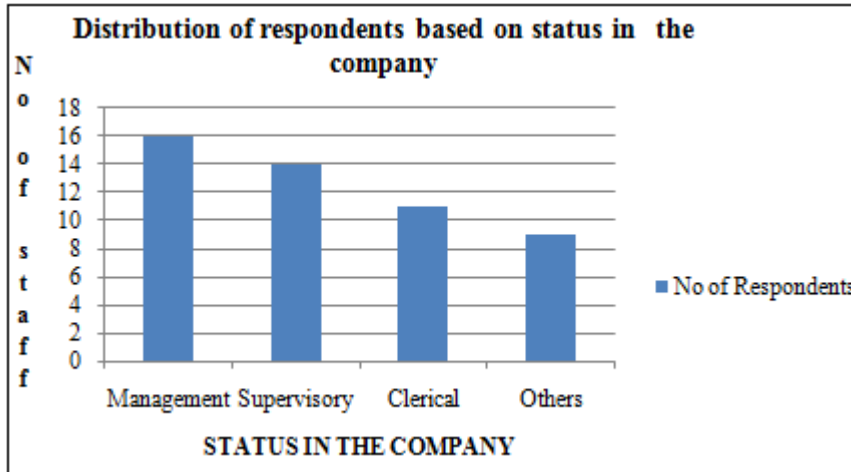


Figure 4: Distribution of respondents based on status in the company

Table 4.5: Distribution of respondents based on educational qualification in the company

Educational qualification	No of Respondents
Ordinary Level	8
OND/NCE	16
BSC/HND/MSCI	26

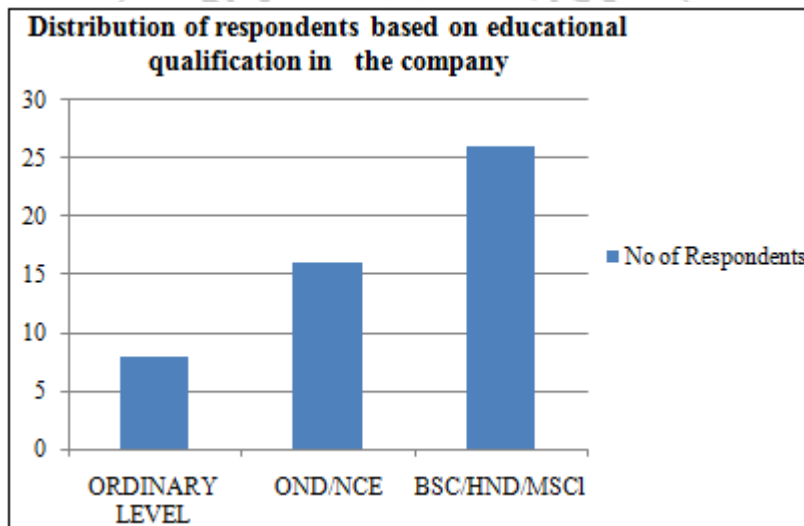


Figure 5: Distribution of respondents by education qualification

Table 4.6: Inventory control management enhance organization profitability

Variables	No of Respondents	% of Respondents
Strongly Agree	20	40
Agree	15	30
Undecided	11	22
Disagree	4	8
Strongly Disagree	-	-
Total	50	100

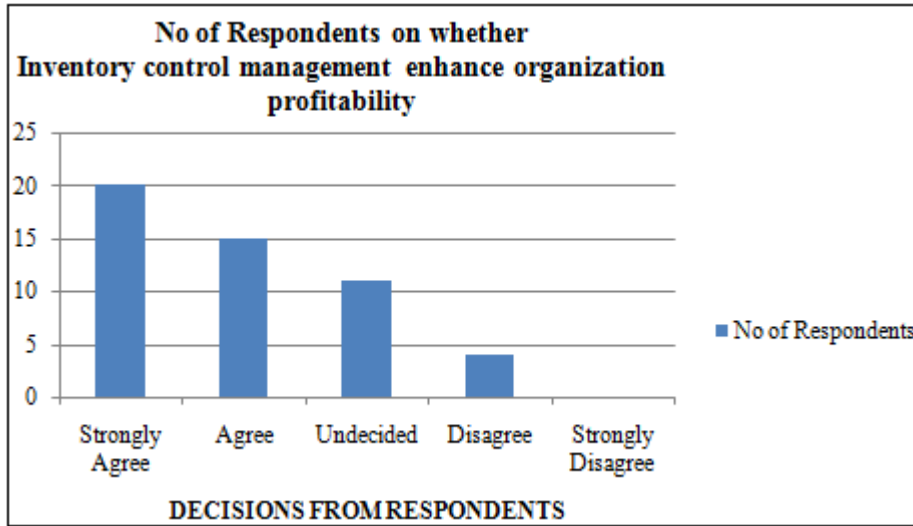


Figure 6: Inventory control management enhance organization profitability

Table 4.7: When inventory control is neglected, cost incurred by the company will be higher

Variables	No of Respondents	% of Respondents
Strongly Agree	20	40
Agree	23	46
Undecided	7	14
Disagree	-	-
Strongly Disagree	-	-
Total	50	100

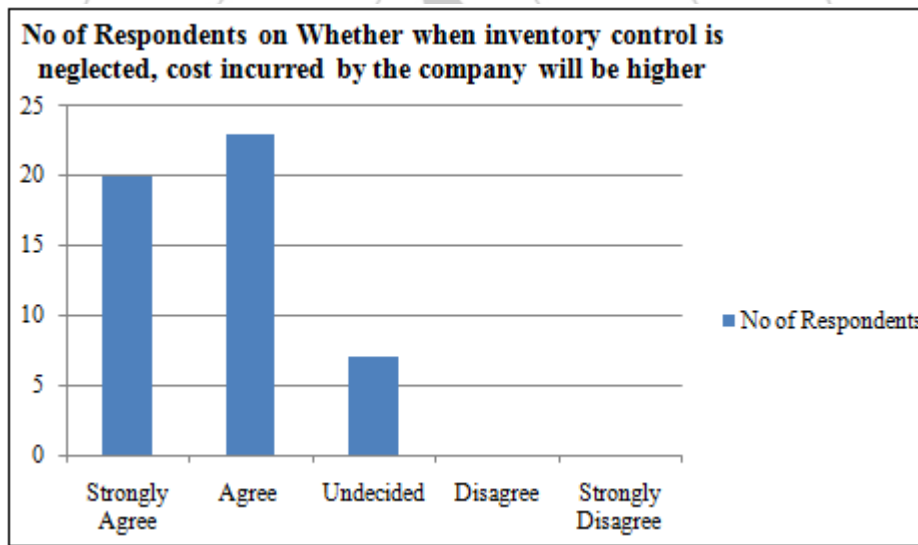


Figure 7: When inventory control is neglected, cost incurred by the company will be higher

Table 4.8: Year spent in the company

Interval	Frequency
1-5	15
6-10	10
11-15	9
16-20	10
21 and above	8

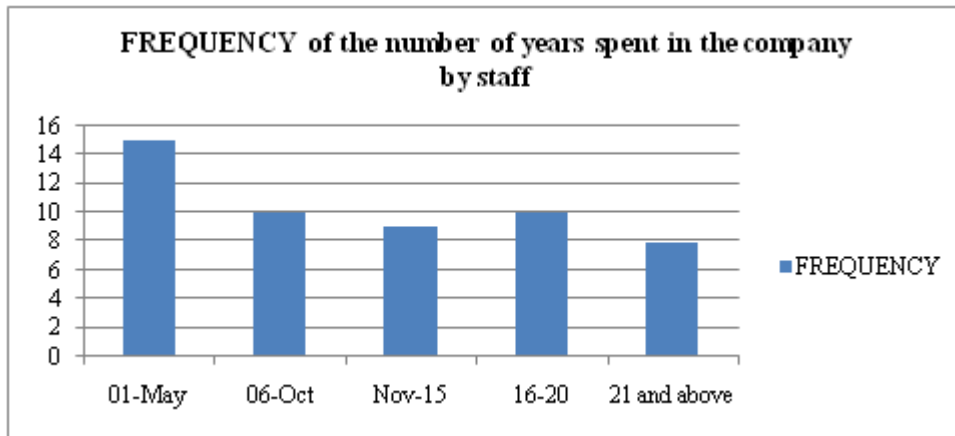


Figure 8: Distribution of respondents based on years spent in the department

Table 4.9: Planned and effective control of inventory improves organization.

Variables	No of Respondents	% of Respondents
Strongly Agree	22	44
Agree	21	42
Undecided	7	14
Disagree	-	-
Strongly Disagree	-	-
Total	50	100

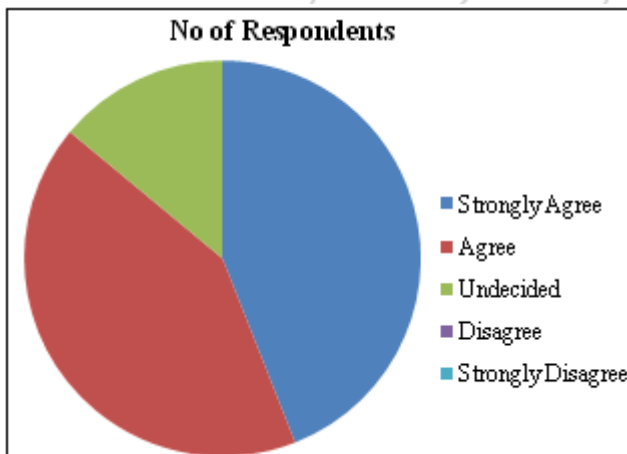


Figure 9: pie chart on whether Planned and effective control of inventory improves organization.

Table 4.10: Proper inventory policy enhances company inventory management

Variables	No of Respondents	% of Respondents
Strongly Agree	19	38
Agree	23	46
Undecided	5	10
Disagree	2	4
Strongly Disagree	1	2
Total	50	100

Table 4.11: Inventory policy determines the replenishment orders

Variables	No of Respondents	% of Respondents
Strongly Agree	20	40
Agree	22	44
Undecided	6	12
Disagree	1	2
Strongly Disagree	1	2
Total	50	100

Table 4.12: Physical counting inventories eliminates theft and fraud

Variables	No of Respondents	% of Respondents
Strongly Agree	20	40
Agree	19	38
Undecided	8	16
Disagree	3	6
Strongly Disagree	-	-
Total	50	100

Table 4.13: Company's purchase of raw materials should be after the stock has finished

Variables	No of Respondents	% of Respondents
Strongly Agree	-	-
Agree	5	10
Undecided	10	20
Disagree	18	36
Strongly Disagree	17	34
Total	50	100

Table 4.14: Inventory control should be handled by a special department

Variables	No of Respondents	% of Respondents
Strongly Agree	19	38
Agree	20	40
Undecided	10	20
Disagree	1	2
Strongly Disagree	-	-
Total	50	100

Table 4.15 The Company should carry out monthly inventory control

Variables	No of Respondents	% of Respondents
Strongly Agree	6	12
Agree	15	30
Undecided	18	36
Disagree	8	16
Strongly Disagree	3	6
Total	50	100

4. Test of Hypotheses

Chi Square test was conducted to test the following hypotheses

Hypothesis 1

Ho: Irregular inventory control does not affect the profit position of the company.

H_i: Irregular inventory control affects the profit position of the company.

Chi-Square Tests

	Value	df	Significance
Pearson Chi-Square	11.286	1	0.001

Interpretation

The Chi square results shows a significant effect since ($p < 0.05$). Therefore, we reject H_0 and conclude that that irregular inventory control affects the profit of the company.

Hypothesis 2

H₀: Inventory control does not determine how a business organization refills its stock.

H_i: Inventory control does determine how a business organization refills its stock.

	Value	df	Significance
Pearson Chi-Square	5.120	1	0.024

Interpretation

The Chi square results shows that significant effect at ($p < 0.05$). We reject H_0 and conclude that inventory control determines how a business organization refills its stock.

Hypothesis 3

H₀: Inventory control does not determine the general effect on a business organization.

H_i: Inventory control does determine the general affect on a business organization.

	Value	df	Significance
Pearson Chi-Square	6.411	1	.011

Interpretation

The Chi Square test was significant at ($p < 0.05$) since the value of 0.011 is less than 0.05. This implies that the inventory control system of any organization will eventually affect the running and the success of that organization.

5. Summary of Results

From figure 3, it is observed that the age of staff within the range of 26-35 years recorded the highest number of respondents with 40% representing 20 respondents. Others have 30%, representing 15 persons, 20% representing 10 respondents and 10% representing 5 respondents for the staff withing the range of 15-25years, 36-45years and 45 and above respectively.

Table 4.1 showed that 55% representing 29 respondents of employees are male and 45% representing 21 respondents are female. It could be seen from table 4.2 that 42% representing 22 of the total respondents are single and 58% representing respondents are married.

Figure5 shows that 52% representing 26 respondent has B.SC/HND, whereas 16%, 32% representing 8,16 respondents are OND/GCE A/L/NCE and WAEC O/L/GCE O/L holders respectively.

Figure8 showed that there are higher numbers of respondents within the range of 1-5years of experience with

the percentage of 30% representing 15 respondents, whereas 20% representing 10 respondents are within the range of 6-10, and 16-20 years respectively. Those wthin the range of 11-15 years has 18% representing 9 respondents. 21-25 years of age has 16% representing 8 respondents which is the least.

Figure 4 shows that most of the samples are gotten from management with 32% representing 16 respondents. Thisis followed by supervisors 28% representing 14 respondents and clerical with 22% representing 11 respondents. Other units have 18% representing respondents and the least is from store with 16% representing 8 respondents.

Row 2 of table 4.6 shows that the respondents that strongly agree that inventory control management will enhance organization profitability is with 40% representing 20 respondents. 30% representing 15 respondents agreed as shown in row 3, while 22% representing 11 respondents where undecided as shown in row 4. 8% representing 4 respondents disagreed as shown in row 5, but there was no record for strongly disagree.

Table 4.7 revealed that the respondents who agree that when the control of inventories is neglected, the costs incurred by the company will be higher is with 46% representing 23 respondents, 40% representing 20 respondents represents strongly agree, 14% representing 7 respondents were undecisive, and 0% for strongly disagree.

Table 4.9 shows that 44% representing 22 respondents strongly agreed that Planned and effective control inventory result in improvement of the organization. Whereas 42% representing 21 respondents agreed, 14% representing 7 respondents were indecisive, 0% representing both disagree and strongly disagree

The percentage of 46% representing 23 respondents agreed that proper inventory policy enhances the company inventory management; 38% representing 19 respondents strongly agreed, 10% representing 5 respondents were indecisive, 4% representing 2 respondents disagreed and 2% representing 1 respondent strongly disagreed as shown in table 4.10.

The percentage of 44% representing 22 respondents agreed that inventory policy determine when and how replenishment orders are to be place; 40% representing 20 respondents strongly agreed, 12% representing 6 respondents indecisive, 2% representing 1 respondent disagreed and 2% representing 1 respondent strongly disagreed as shown in table 4.11.

The table 4.12 showed that 40% representing 20 respondents strongly agreed that physical counting inventories can help reduce or eliminate theft and fraud, 38% representing 18 respondents agreed, 16% representing 8 respondents were indecisive, 6% representing 3 respondents disagreed while 0% strongly disagreed.

The table 4.13 showed that 34% representing 17 respondents strongly disagreed, 36% representing 18 respondents disagreed, 20% representing 10 respondents were indecisive,

10% representing 5 respondents agreed and 0% strongly agreed that company's purchase should be after the stock has finished.

The table 4.14 shows that 38% representing 19 respondents strongly agreed, 40% representing 20 respondents agreed, 20% representing 10 respondents were indecisive, 2% representing 1 respondent disagreed and 0% strongly disagreed that inventory control should be handled by a special department

The table 4.15 shows that 12% representing 6 respondents strongly agreed, 30% representing 15 respondents agreed, 36% representing 18 respondents were indecisive, 16% representing 8 respondents disagreed and 6% representing 3 respondents strongly disagreed that company should carry out monthly inventory control.

The Chi square results of test one shows that irregular inventory control affects the profitability position of the company at ($p < 0.05$). However, it was observed that regular inventory control improves the profitability of a business organization. In addition, the influence of management on inventory control towards profitability of the company revealed a positive significance ($p < 0.01$) as shown in test three. Test 2 shows that inventory control determined the general effect on a business organization. This implies that the inventory control system of any organization will eventually affect the running and the success of that organization. This indicates that inventory control determines how a business organization refills its stock since it is only by it, goods that have been exhausted from the store can be identified and replaced.

6. Conclusions

Inventory control is an unavoidable measure in smooth running of any organization. It is used to ensure the continuous production of goods. Inventory control, when fully understood, will lead to continuous existence, performance of an organization in meeting demand of their customers. From our findings, it is a fact that inventory control is very important in every organization in order to achieve the desired goal of maximizing profit.

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Appendix 1 Questionnaires

Section A

Please supply answers to the questions by ticking the appropriate.

1. Age: 16 – 25 years [] 26 – 35 years [] 36 – 45 years [] 46 years and above []
2. Gender: Male [] Female []
3. Highest Educational Qualifications: WAEC/ OL/GCE/OL [] ,OND/GCE/AL/NCE [] , B.SC/HND/MSC/MBA []
4. Department: Accounting [] , Production [] , Storage [] , Purchasing [] , Sales [] ,
5. Status: Management [] , Supervisory [] , Clerical [] , Others []
6. Marital Status: Single [] , Married []
7. Years Spent: 1–5yrs [] , 6–10yrs [] , 11–15yrs [] , 16–20yrs [] , 21–25yrs [] , 26yrs upward []

Section B

This section is based on factors that influence Inventory Control on Profitability of a Business Organization (a case study of DUFIL Prima Foods Limited Choba, Port Harcourt.). Please supply answers to the questions below. Comments can be added. Below is a description of the scale.

- 5 -Strongly Agree, 4-Agree, 3- Undecided, 2- Disagree, 1- Strongly Disagree

S/N	Question	5	4	3	2	1	Comments
1.	Responses on whether inventory control management will enhance organization profitability						
2.	Responses on whether when the control of inventories is neglected, the cost incurred by the company will be higher						
3.	Responses on whether a well planned and effective controlled inventory can result in improvement of the organization.						
4.	Responses on whether irregular inventory control affects profits position of the company						
6.	Responses on whether Economic Order Quantity minimizes the balance of cost						
7.	Responses based on whether proper inventory policy enhances company inventory management						
9.	Responses based on whether Economic Order Quantity should always be applied to the most important costly inventory items						
10.	Responses based on whether Physical Counting Inventories can help reduce or eliminate theft and fraud						
11.	Responses on whether company's purchase of raw materials should be after the stock has finished						
13.	Responses on whether inventory control should be handed by a special department						
14.	Responses on whether the company should carryout monthly inventory control						