

EFFECT OF LEARNING ON THE PRODUCT QUALITY OF CHEMICAL AND PHARMACEUTICAL FIRMS IN ENUGU STATE, NIGERIA

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ABSTRACT: The study evaluated the effect of learning on the product quality of chemical and pharmaceutical firms in Enugu State, Nigeria. The specific objectives were to: examine the effect of employee absorbed knowledge on the standard product of manufacturing firms in Enugu State, ascertain the effect of employee undergoing a process on the features of manufacturing firms in Enugu State, Nigeria and determine the effect of employee retention of knowledge on the reliability of the product of manufacturing firms in Enugu State. The study used the survey approach. The primary sources were personal interview and the administration of questionnaire. A population of 3,418 staff was used. The population of the study was drawn from the staff of these organizations under study using a stratified sampling method. To determine the adequate sample size of 346, using Freund and William's statistic formula. 326 staff returned the questionnaire and accurately filled. That gave 94 percent response rate. The validity of the instrument was tested using content analysis and the result was good. The reliability was tested using the Pearson correlation coefficient (r). It gave a reliability co-efficient of 0.77 which was also good. The hypotheses were analyzed using Z- test statistics tool. The findings indicated that employee absorbed knowledge has positive effect on standard product of manufacturing firms in Enugu State $Z(95, n = 346) = 5.635, p > 0.05$, Employee undergoing a process has positive effect on the features of manufacturing firms in Enugu State, $Z(95, n = 346) = 5.819, p > 0.05$, employee retention of knowledge has positive effect on the reliability of products of manufacturing firms in Enugu State. $Z(95, n = 346) = 5.984, p > 0.05$. The study concluded that learning was one of the organizational values, systems and practices that supports and encourages both individuals, and the organization to increase knowledge, competence and performance levels on an ongoing basis. The study recommended that inspection technique has to be maintained to facilitate the utilization of best practices and among others.

Keywords: Learning, Product Quality, Process, Features, Absorbed Knowledge, Reliability.

1. INTRODUCTION

The ability to learn is an innate quality that every human being possesses. It is through learning that human beings have been able to make numerous advancements, both in science and in production. Learning is the process of acquiring new understanding, knowledge, behaviors, skills, values, and preferences (Karban, 2015). Through learning, organizations and individuals are able to adapt to new ways of doing things. Organizational learning is the process of creating, retaining, and transferring knowledge within an organization. An organization improves over time as it gains experience. From this experience, it is able to create knowledge. This knowledge is broad, covering any topic that could better an organization. Examples may include ways to increase production efficiency or to develop beneficial investor relations. Knowledge is created at four different units: individual, group, organizational, and inter organizational (Agorte, 2013). Learning, be it in the organizational level or the individual level is also a continuous process, evolving based on the dictates of the environment. Over time, an organization learns and adapts to the prevailing level of technology, as well as to the tastes and preferences of its customers. Learning makes it easy for firms to produce at a better standard, thereby possible improving the quality of their products (Roder, 2019).

Furthermore, the ability of an individual or organization to learn, makes it easier or harder for it to improve. In the case of an organization, learning makes improvements in product quality possible, as well as the opportunity to maximize profits. Quality is the performance of the product as per the commitment made by the producer to the consumer. Such commitment may be explicit or implicit i.e. in terms of written contract or in terms to the quality management expectation of the average consumer of the

product. The performance of the product is concerned with the ultimate function and service which the product must provide to the final; consumer. A product is known as a quality product only when it satisfies various criteria for its functioning for the consumer. In addition to the physical criteria, there is also a service and time factor to quality. The same quality of physical performance should be available over a reasonable length of time. Hence time is also unnecessary aspect of quality. The nature of quality makes it such that constant improvements are necessary, and such improvements only come through learning. Hence showing the relationship that exists between learning and product quality, especially in the manufacturing industry.

1.1. Statement of the Problem

Over the years, various manufacturing firms in Nigeria have been able to successfully keep in touch with the demands of their customers. Through learning, manufacturing firms are able to improve the standard of the products they offer to the masses, upgrade the features of their products and also enhance the reliability of such product. Over the years, there have been advancements in technology on new methods of production. Even the insurance industry has also witnessed such improvements. However, without organizational learning a firm or an organization may not be able to fully maximize the benefits accruable to these advancements, and may suffer losses on such accounts. Ideally, an organization should engage in training and development for its employees, even go to the extent of financing their own research and development team. These when put in place, may necessary help such organization stay ahead of its competitors.

However, just like learning could help an organization stay ahead of its competitors, the reverse could also be the case. When an organization does not have the necessary mechanism need to enhance organization learning, the organization may lag behind its competitors, and as a result, may lose market share. There are many issue which could hamper learning in an organization, some of which include failure or employees to absorb knowledge, poor retention of knowledge on the part of the employees and lack of proper training and workshops for employees. These issues do not necessary stand alone, and could have numerous consequences on the activities of the organization, which will eventually affect the quality of products produced by the organization.

Furthermore, the inability of employees to absorb knowledge may affect the standard of products produced in the organization. This is because the employee may not be able to fully carry out the needed task as required, and such failures may lead to product deformities. Also, most new recruits undergo training process in an organization, which helps them get acquainted with the tasks expected of them. The absence of this process may also affect the product features of the organization. Then, the ability of employees to retain knowledge affects the quality of products made by manufacturing firms. The study therefore, seeks to examine the effect of learning on the product quality of manufacturing firms in Enugu State.

1.3. Objectives of the Study

The main objectives of the study were to evaluate the effect of learning on the product quality of manufacturing firms in Enugu State, Nigeria. The specific objectives were to;

- i. Examine the effect of employee absorbed knowledge on the standard product of manufacturing firms in Enugu State
- ii. Ascertain the effect of employee undergoing a process on the features of manufacturing firms in Enugu State, Nigeria
- iii. Determine the effect of employee retention of knowledge on the reliability of the product of manufacturing firms in Enugu State

1.4. Research Questions

The following research questions guided the study;

- i. What is the effect of employee absorbed knowledge on the standard product of manufacturing firms in Enugu State?
- ii. What is the effect of employee undergoing a process in the features of manufacturing firms in Enugu State, Nigeria?
- iii. What is the effect of employee retention of knowledge on the reliability of the product of manufacturing firms in Enugu State?

1.5. Statement of Hypotheses

The following alternate hypotheses guided the study;

- i. Employee absorbed knowledge has positive effect on standard product of manufacturing firms in Enugu State.
- ii. Employee undergoing a process has positive effect on the features of manufacturing firms in Enugu State.
- iii. Employee retention of knowledge has positive effect on the reliability of products of manufacturing firms in Enugu State.

1.6. Significance of the Study

The study examined the effect of learning on product quality of manufacturing firms in Enugu State. Hence, the study will prove beneficial to the following stakeholders; managers, employees and the researchers. The study will be beneficial to managers because it will expose them to the fact that in order to ensure high quality products, that training and education, and all forms of learning are necessary. This is because it is through learning that the organization can get to understand new and more efficient ways of production. Also, the study will be beneficial to employees in understanding the need for learning and education as a vital tool in maintaining their relevance in the organization. And lastly, the study will help researchers who wish to study learning and its importance in ensuring product quality in organizations.

2. REVIEW OF RELATED LITERATURE

2.1. Conceptual Framework

2.1.1. Learning

Learning is the process of acquiring new understanding, knowledge, behaviors, skills, values, and preferences. The ability to learn is possessed by humans, animals, and some machines; there is also evidence for some kind of learning in certain plants. Some learning is immediate, induced by a single event (e.g. being burned by a hot stove), but much skill and knowledge accumulates from repeated experiences. The changes induced by learning often last a lifetime, and it is hard to distinguish learned material that seems to be "lost" from that which cannot be retrieved ([Karban, 2015](#)). Learning takes place both through a conscious effort of the individual to learn, and also unconsciously.

Learning is one of the key ingredients that improves an employee in his or her line of work, and as such is important in ensuring product quality. The Merriam-Webster Dictionary (2020) defines learning as the acquisition of knowledge or skill by instruction or through study, or the modification of behavioural tendencies by experience. The concept of learning is synonymous with education, and is very vital to organizational survival and growth. When an organization is able to learn new methods and approaches of doing things, it stands a better chance of maximizing its available resources to produce better products at cheaper rates relative to other companies. Learning, be it in the organizational level or the individual level is also a continuous process, evolving based on the dictates of the environment. Over time, an organization learns and adapts to the prevailing level of technology, as well as to the tastes and preferences of its customers. Learning makes it easy for firms to produce at a better standard, thereby possibly improving the quality of their products ([Roder, 2019](#)).

2.1.2. Product Quality

In business, engineering, and manufacturing, quality has a pragmatic interpretation as the non-inferiority or superiority of something; it's also defined as being suitable for its intended purpose (fitness for purpose) while satisfying customer expectations. Quality is a perceptual, conditional, and somewhat subjective attribute and may be understood differently by different people ([Nanda, 2016](#)). Consumers may focus on the specification quality of a product/service, or how it compares to competitors in the marketplace. Producers might measure the conformance quality, or degree to which the product/service was produced correctly. Support personnel may measure quality in the degree that a product is reliable, maintainable, or sustainable.

The definition of "quality" has changed over time, and even today some variance is found in how it is described. However, some commonality can still be found. The common element of the business definitions is that the quality of a product or service refers to the perception of the degree to which the product or service meets the customer's expectations. Quality has no specific meaning unless related to a specific function and/or object. Product quality means to incorporate features that have a capacity to meet

consumer needs (wants) and gives customer satisfaction by improving products (goods) and making them free from any deficiencies or defects (Akrani, 2013).

2.1.3. Employee Absorbed Knowledge

Knowledge has been largely recognized as an important source of competitive advantage and value creation, and as an indispensable ingredient for the development of the dynamic core competencies. Many researchers have discussed the importance of knowledge as an organizational resource, and the consequent relevance of managing it. Also, knowledge is not a homogenous resource. Although it is related to data and information, knowledge is different from these constructs. Data are a set of defined, objective facts concerning events, while information is a value-added form of data that adds meaning through contextualization, categorization, calculation, correction, or condensation (Agorte, 2013).

Knowledge is the applied version of information, a combination of information within experience, framing, value, contextualization, and insight. Experience is knowledge that is generated through exposure to and application of knowledge. Knowledge originates within and is applied by units of an organization to evaluate and utilize experience and information effectively. Von-Briel *et al.* (2018) Conceptualized knowledge absorption as a collaborative, interorganizational endeavor. This means that knowledge absorption is more effective when there is a mutual flow of information from one entity to the other. Knowledge absorption basically means a cultural shift such that organization become "knowledge-seekers", with the role of searching for the non-identified valuable knowledge in the environment but also within its boundaries. Being able to absorb knowledge makes for a valuable employee, and could affect both the organization and the employee in a positive way.

2.1.4. Standard Products

In producing goods and services, especially goods, there is a certain level on which manufacturing companies are expected to operate. This is a level below which the product would be deemed as inferior. When the products of an organization meet these basic requirements, they are referred to as standard products. Standardization or standardisation is the process of implementing and developing technical standards based on the consensus of different parties that include firms, users, interest groups, standards organizations and governments (Xie *et al.*, 2016). Standardization can help maximize compatibility, interoperability, safety, repeatability, or quality. It can also facilitate commoditization of formerly custom processes.

In social sciences, including economics, the idea of standardization is close to the solution for a coordination problem, a situation in which all parties can realize mutual gains, but only by making mutually consistent decisions. The Merriam-Webster Dictionary defines standard as something set up and established by authority as a rule for the measure of quantity, weight, extent, value, or quality. This means that a standard product should be able to conform to a set of already set-out rules or qualities. A manufacturing firm should be able to meet the standards set by either the government, or an association of manufactures for it to be considered as producing standard goods.

2.2. Theoretical Framework

2.2.1. Knowledge-Based Theory

The knowledge-based theory of the firm considers knowledge as the most strategically significant resource of a firm. Its proponents argue that because knowledge-based resources are usually difficult to imitate and socially complex, heterogeneous knowledge bases and capabilities among firms are the major determinants of sustained competitive advantage and superior corporate performance. This knowledge is embedded and carried through multiple entities including organizational culture and identity, policies, routines, documents, systems, and employees.

Although the resource-based view of the firm recognizes the important role of knowledge in firms that achieve a competitive advantage, proponents of the knowledge-based view argue that the resource-based perspective does not go far enough. Specifically, the RBV treats knowledge as a generic resource, rather than having special characteristics. It therefore does not distinguish between different types of knowledge-based capabilities. Information technologies can play an important role in the knowledge-based view of the firm in that information systems can be used to synthesize, enhance, and expedite large-scale intra- and inter-firm knowledge management. This theory is relevant to the study because by recognizing the important role that knowledge plays in a firm, the theory explicitly shows the relationship between learning and product quality in an organization.

2.2.2 Experiential Learning Theory

Kolb (1984) experiential learning theory (ELT) is based in psychology, philosophy, and physiology, and has significantly influenced leadership and organization development and contributed to principles of the learning organization since its introduction. Its basic premise is that learning occurs through the combination of grasping and transforming experience. ELT constitutes of a four-stage learning cycle: concrete experience (CE) and abstract conceptualization (AC) comprise the grasping component, while reflective observation (RO), and active experimentation (AE) make up the transforming experience component. This learning process is characterized as a cycle in which the learner proceeds through the sequence of experiencing, reflecting, thinking, and acting in a repeating progression that is unique to each learning circumstance. Specifically, concrete experiences (experiencing) spark observation and reflection (reflecting), which is internalized and integrated into abstract concepts (thinking) that spark new behavioral experimentation (acting) (Yeganeh and Kolb, 2009). This learning cycle can be entered at any point, but the stages are always followed in sequence. The theory shows mainly that learning occurs through experience, furthermore enforcing the need for organizations to engage in employee training in order to enhance learning in the organization and also produce high quality goods.

2.3. Empirical Review

Sabir *et al.* (2014) carried out a study on the impact of training on productivity of employees. The objective of the study was to find the relationship of different variables, training, compensation, feedback, and job involvement on productivity of employees in electric supply company in Pakistan. The study made use of quantitative approach of research. The population for the study is the employees of electricity supply companies of Pakistan. The study made use of non-probability sampling technique and random sampling. The sample size of the study is 150 employees of electricity supply companies of Pakistan. The study used the survey method for collection of data with instrument of questionnaire. Results indicated that the relationship of various variables is positive impact on employee productivity. Results also indicate that reliability of instrument and variables is creating positive impact on employees of Electricity Supply Company in Pakistan. In order to ensure that employees adopt the training it must be efficient and quick as well as easy to satisfy. The study supports the hypothesis that various factors of training has the most significant and strong impact on employee satisfaction. The study supports the research finding that there is a positive relationship between feedback factors which is associated with the employees of Electricity Supply Company. The study recommends that appropriate training programs be afforded to employees since it positively affect their productivity.

Sylva *et al.* (2016) investigated the impact of knowledge management on product innovation of manufacturing firms in Nigeria. A sample size of 95 was determined from a population of 125 employees selected from 5 manufacturing firms in Port Harcourt. 70 copies of the questionnaire were appropriately filled and data was analyzed using Standard Multiple Regression with the aid of SPSS version 21. The findings showed that all the dimensions of Knowledge Management influenced Product Innovation of the firms. However, it was revealed that knowledge acquisition has the most impact on product innovation. It was therefore recommended that management of these firms should take practical steps to acquire the right blend of knowledge workers so as to enhance efficiency of their production through innovativeness. Likewise, the recruitment process of potential employees should be based on competence and credibility of the candidates.

Ouma and Kombo (2016) conducted a study is to examine the effect of organizational learning on organizational performance in food manufacturing firms in Nairobi County Kenya. The study adopted correlational survey research design with a target population of 87 food manufacturing firms from Nairobi County. The study used disproportionate stratified random sampling method to identify a sample that was representative of the 7 sub-sectors of the food manufacturing industry. A sample of 71 firms was used in the study. Primary data was collected using close-ended questionnaires which were administered to executive officers in the firms. The questionnaire was used to get both qualitative and quantitative data. To summarize the data, descriptive statistics such as mean and standard deviation were used. To examine the effect of organizational learning on organizational performance, multiple regression analysis was used. The study results revealed that there was a positive and significant relationship between organizational learning and organizational performance. The study concluded that while information distribution needs to be the key vision of organizational learning goals, all organizational learning dimensions should be combined for a greater increase on organizational performance.

Furthermore, Nnadi and Nweze (2017) examined the effect of production management techniques on product quality using some selected manufacturing firms in South East of Nigeria as case study. In all,

554 structured questionnaires were administered to staff of different ranks in the selected firms. The data collected with the questionnaires were analysed using Statistical Package for Social Scientist (SPSS) version 20. Two hypotheses were formulated and tested using Pearson product moment correlation statistic. The result of the study revealed that there is significant positive relationship between product ordering technique and needed resource output; the study also found that dispatching technique has a significant positive effect on production activities. It was therefore recommended that product ordering techniques should be highly observed for best practice in global manufacturing and business and that dispatching technique along with other production activities should be strictly observed in practice.

Ewans, Olai and Offor (2017) carried out a study on organizational learning and performance of selected manufacturing firms in Lagos. The specific objectives of the study were: to ascertain the extent to which knowledge utilization relates to product diversification of the selected paints manufacturing firms in the Lagos State, Nigeria and to determine the extent to which knowledge sharing relates to product quality improvement of the selected paint manufacturing firms in Lagos State, Nigeria. The study employed correlational design in an attempt to determine the degree of relationship between studied variables. Structured questionnaire were administered to the sample of two hundred and seventy three (273), out of which, two hundred and sixty five (265) copies of the questionnaire were returned and subsequently used for the analysis. The data collected were analyzed with Product Moment Correlation Coefficient Via SPSS version 20.0. The study found a significant relationship between knowledge utilization and product diversification ($r = 0.76$) and significant relationship between knowledge sharing and product quality improvement ($r=0.64$) of the selected paint manufacturing firms in the Lagos State, Nigeria. From the findings therefore, the study concluded that organizations could sustain superior performance, if organization learning is implemented effectively. The study recommended that the management of these firms should provide a sustainable framework that will allow for organizational learning among organizational workers for cross-fertilization of innovative ideas, thus assemblage of these ideas would enable organization to come up with new product ideas or improved on already existing line of business.

Nnadi *et al.* (2018) Interrogated the link between quality control technique and product quality in manufacturing firms in South East Nigeria. The study specifically aimed to examine the effect of inspection technique on relationship between quality control technique and product designing. The total population used for the study was nine thousand two hundred and eighty-five (9,285) personnel, but utilized a total sample size of five hundred and sixty four (564) which constitute the actual number of staff that issued questionnaire. Data collected were presented in table and the statistical tools used for data analysis is the Pearson Correlation with the aid of Statistical Package for Social Sciences (SPSS). The result of the study revealed that inspection technique has a significant positive effect on production control and that quality control technique has a significant positive effect on product designing. The study recommends that inspection technique has to be maintained to facilitate the utilization of best practices, and total and also because of globalization quality control technique has to gain way for best practices in global manufacturing.

Ulo and Ekpe (2019) examined the relationship between employee training and the performance of selected plastic products manufacturing firms in Nigeria. The specific objectives of the study was to: determine the extent to which programmed instruction relate to increase in sales volume and determine the extent to which computer/simulated games training relate to high return on investment in plastic products manufacturing firms in Nigeria. Descriptive research approach was adopted. Data was collected and analysed with the Pearson's Product Moment Correlation Coefficient (r) and the results tested with t -statistics. The findings indicate that programmed instruction relates significantly to increase in sales volume and that computer/simulated games relate significantly to high return on investment in plastic products manufacturing firms in Nigeria. Based on the findings, the study concludes that training relates significantly to the performance of plastic products manufacturing firms in Nigeria. The study therefore recommended that every organisation in Nigeria should train her employees using programmed instruction and computer/simulated games techniques as intervention strategies for organizational performance. Finally, to achieve optimal result from training exercise and ensuring the sustenance of competitive advantage, management should lay emphasis on appropriate training programmes relevant to the organisation, job specific and embarked on such when and where the need arises.

3. METHODOLOGY

The area of study comprised of the chemical and pharmaceutical manufacturing firms in Enugu state, Nigeria registered under Manufacturer Association of Nigeria (MAN). They are: AC drugs Ltd,

BULGER Pharm Ltd, DEZERN Nig. Ltd, DOZZY oil and gas Ltd, EMY Holdings Nig. Ltd, Gloria-Gloria Pharm Ltd, Integrated chemical industrial Ltd, and NEMEL Pharm. Nig. Ltd. The study used the survey approach. The primary sources were personal interview and the administration of questionnaire. A population of 3,418 staff was used. The population of the study was drawn from the staff of these organizations under study using a stratified sampling method. To determine the adequate sample size of 346, using Freund and William's statistic formula. 326 staff returned the questionnaire and accurately filled. That gave 94 percent response rate. The validity of the instrument was tested using content analysis and the result was good. The reliability was tested using the Pearson correlation coefficient (r). It gave a reliability co-efficient of 0.77 which was also good. Data was presented and analyzed by mean score (3.0 and above agreed while below 3.0 disagreed) and standard deviation using Sprint Likert Scale. The hypotheses were analyzed using Z- test statistics tool.

4. DATA PRESENTATION ANALYSES

4.1. Likert Scale Analyses

4. DATA RELATING TO RESEARCH QUESTIONS

4.1. Research Questions One: What is the effect of employee absorbed knowledge on the standard product of manufacturing firms in Enugu State?

Table 1. Responses to research question one: on the effect of employee absorbed knowledge on the standard product of manufacturing firms in Enugu State

		5 SA	4 A	3 N	2 DA	1 SD	ΣFX	- X	SD	Decision
1	Knowledge gained within my company has improved the quality of our products.	655 131 40.2	596 149 45.7	30 10 3.1	36 18 5.5	18 18 5.5	1335 326 100%	4.1	1.07	Agree
2	Employee knowledge through extended supply chain has impacted positively on the capacity of our production.	870 174 53.4	232 58 17.8	33 11 3.4	78 39 12.0	44 44 13.5	1257 326 100%	3.9	1.50	Agree
3	My company gain a competitive edge in ever-changing technological environment.	595 119 36.5	432 108 33.1	48 16 4.9	60 30 9.2	53 53 16.3	1188 326 100%	3.6	1.42	Agree
4	There is theorizing cross-domain that improves knowledge accumulation on absorptive capacity in my company.	1030 206 63.2	116 29 8.9	27 9 2.8	78 39 12.0	43 43 13.2	1294 326 100%	4.0	1.54	Agree
5	There is absorptive capacity for a new customers needs in my company.	355 71 21.8	668 167 51.2	39 13 4.0	78 39 12.0	36 36 11.0	1175 326 100%	3.6	1.26	Agree
	Total grand mean and standard deviation							3.8	1.36	

Source: Field Survey, 2020

From the table, 280 respondents out of 326 representing 85.9 percent agreed that knowledge gained within my company has improved the quality of our products with mean score of 4.1 and standard deviation of 1.07. Employee knowledge through extended supply chain has impacted positively on the capacity of our production with 232 respondents representing 71.2 percent agreed with mean score of 3.9 and standard deviation of 1.50. My company gain a competitive edge in ever-changing technological environment with 227 respondents representing 69.5 percent agreed with mean score of 3.6 and standard deviation of 1.42. There is theorizing cross-domain that improves knowledge accumulation on absorptive capacity in my company with 235 respondents representing 72.1 percent agreed with mean score of 4.0 and 1.54. There is absorptive capacity for a new customers needs in my company with 238 respondents representing 86.3 percent agreed with a mean score of 3.6 and standard deviation of 1.26.

4.2. Research Questions Two: What is the effect of employee undergoing a process in the features of manufacturing firms in Enugu State, Nigeria?

Table 2. Responses to research question one: on the effect of employee undergoing a process in the features of manufacturing firms in Enugu State, Nigeria

		5 SA	4 A	3 N	2 DA	1 SD	Σ FX	- X	SD	Decision
1	Employee acquiring a unique skills have helped to fulfill our customers needs.	480 96 29.4	508 127 39.0	39 13 4.0	116 58 17.8	32 32 9.8	1175 326 100%	3.6	1.33	Agree
2	The modified behaviour of employees contributes to the attainment of my company goals and objectives	525 105 32.2	488 122 37.4	123 41 12.6	100 50 15.3	28 28 8.6	1264 326 100%	3.9	1.32	Agree
3	There is increase in the powers of observation and integration in my company that help us in packaging.	455 91 27.9	504 126 38.7	57 19 5.8	102 51 15.6	39 39 12.0	1157 326 100%	3.5	1.36	Agree
4	The adjustments to new situations have been due to training activities in my company.	275 55 16.9	708 177 54.3	51 17 5.2	74 37 11.3	40 40 12.3	1148 326 100%	3.5	1.24	Agree
5	The streamlined induction activities have facilitated the employee improvement on the products in my company.	435 87 26.7	520 130 39.9	51 17 5.2	80 40 12.3	52 52 16.0	1138 321 100%	3.5	1.41	Agree
	Total grand mean and standard deviation							3.8	1.33	

Source: Field Survey, 2020

From the table, 223 respondents out of 326 representing 68.4 percent agreed that employee acquiring a unique skills have helped to fulfill our customers' needs with mean score of 3.6 and standard deviation of 1.33. The modified behaviour of employees contributes to the attainment of my company goals and objectives with 227 respondents representing 69.6 percent agreed with mean score of 3.9 and standard deviation of 1.32. There is increase in the powers of observation and integration in my company that help us in packaging with 217 respondents representing 66.6 percent agreed with mean score of 3.5 and standard deviation of 1.36. The adjustments to new situations have been due to training activities in my company with 232 respondents representing 71.2 percent agreed with mean score of 3.5 and 1.24. The streamlined induction activities have facilitated the employee improvement on the products in my company with 217 respondents representing 66.6 percent agreed with a mean score of 3.5 and standard deviation of 1.41.

4.3. Research Questions Three: What is the effect of employee retention of knowledge on the reliability of the product of manufacturing firms in Enugu State?

Table 3. Responses to research question Three: on the effect of employee retention of knowledge on the reliability of the product of manufacturing firms in Enugu State.

		5 SA	4 A	3 N	2 DA	1 SD	Σ FX	- X	SD	Decision
1	Able to identify what need each employee requires to know brings cost-effectiveness of systems	790 158 48.5	280 70 21.5	42 14 4.3	82 41 12.6	43 43 43	1237 326 100%	3.7	1.48	Agree
2	There is establishment of knowledge-transfer best practices which has been preserved overtime in our organisation.	385 77 23.6	640 160 49.1	27 9 2.8	78 39 12.0	41 41 12.6	1171 326 100%	3.6	1.31	Agree

3	The provision of knowledge database has improved adequate performance in my company.	390 78 23.9	680 170 52.1	36 12 3.7	78 39 12.0	27 27 8.3	1211 326 100%	3.7	1.19	Agree
4	Inclusion of culture in onboarding in my company has improved operating conditions.	965 193 59.2	292 73 22.4	33 11 3.4	54 27 8.3	22 22 6.7	1366 326 100%	4.2	1.24	Agree
5	The retaining of things of what employee learn affects my company bottom line positively.	850 170 52.1	336 84 25.8	42 14 4.3	78 39 12.0	19 19 5.8	1325 326 100%	4.1	1.25	Agree
	Total grand mean and standard deviation							3.8	1.29	

Source: Field Survey, 2020

From the table, 228 respondents out of 326 representing 70.0 percent agreed that the able to identify what need each employee requires to know brings cost-effectiveness of systems with mean score of 3.7 and standard deviation of 1.48. There is establishment of knowledge-transfer best practices which has been preserved overtime in our organisation with 230 respondents representing 72.7 percent agreed with mean score of 3.6 and standard deviation of 1.31. The provision of knowledge database has improved adequate performance in my company with 248 respondents representing 76.0 percent agreed with mean score of 3.7 and standard deviation of 1.19. Inclusion of culture in onboarding in my company has improved operating conditions with 266 respondents representing 81.6 percent agreed with mean score of 4.2 and 1.24. The retaining of things of what employee learn affects my company bottom line positively with 254 respondents representing 77.9 percent agreed with a mean score of 4.1 and standard deviation of 1.25.

5. TEST OF THE HYPOTHESES

5.1. Hypothesis One: Employee absorbed knowledge has positive effect on standard product of manufacturing firms in Enugu State.

Table 4. Z – test on the Employee absorbed knowledge has positive effect on standard product of manufacturing firms in Enugu State.

		Employee absorbed knowledge has positive effect on standard product of manufacturing firms in Enugu State.
N		326
Normal Parameters	Mean	3.566
	Std Deviation	1.334
Most Extreme	Absolute	.312
Most Extreme	Positive	.159
Differences	Negative	-.312
Kolmogorov-Smirnon Z		5.632
Asymp. Sig.(2-tailed)		.000

Source: SPSS Version 20

- a. Test distribution is Normal
- b. Calculated from data

5.1.1. Decision Rule

If the calculated Z-value is greater than the critical Z-value (i.e $Z_{cal} > Z_{critical}$), reject the null hypothesis and accept the alternative hypothesis accordingly.

5.1.2. Result

With Kolmogorov-Smirnon Z – value of 5.632 and on Asymp. Significance of 0.000, the responses from the respondents as display in the table is normally distributed. This affirms that the assertion of the most of the respondents that Employee absorbed knowledge has positive effect on standard product of manufacturing firms in Enugu State.

5.1.3. Decision

Furthermore, comparing the calculated Z- value of 5.632 against the critical Z- value of 1.96 (2-tailed test at 95% level of confidence) the null hypothesis were rejected. Thus the alternative hypothesis was accepted which states that Employee absorbed knowledge has positive effect on standard product of manufacturing firms in Enugu State

5.2. Hypothesis Two

Table 5. Z-test on the Employee undergoing a process has positive effect on the features of manufacturing firms in Enugu State.

		Employee undergoing a process has positive effect on the features of manufacturing firms in Enugu State.
N		326
Normal Parameters	Mean	3.868
	Std Deviation	1.294
Most Extreme	Absolute	.322
Most Extreme	Positive	.218
Differences	Negative	-.322
Kolmogorov-Smirnon Z		5.819
Asymp. Sig.(2-tailed)		.000

Source: SPSS Version 20

- a. Test distribution is Normal
- b. Calculated from data

5.2.1. Decision Rule

If the calculated Z-value is greater than the critical Z-value (i.e $Z_{cal} > Z_{critical}$), reject the null hypothesis and accept the alternative hypothesis accordingly.

5.2.2. Result

With Kolmogorov-Smirnon Z – value of 5.819 and on Asymp. Significance of 0.000, the responses from the respondents as display in the table is normally distributed. This affirms that the assertion of the most of the respondents that Employee undergoing a process has positive effect on the features of manufacturing firms in Enugu State.

5.2.3. Decision

Furthermore, comparing the calculated Z- value of 5.819 against the critical Z- value of 1.96 (2-tailed test at 95% level of confidence) the null hypothesis were rejected. Thus the alternative hypothesis was accepted which states that Employee undergoing a process has positive effect on the features of manufacturing firms in Enugu State.

5.3. Hypothesis Three

Table 6. Z – test on the Employee retention of knowledge has positive effect on the reliability of products of manufacturing firms in Enugu State.

		Employee retention of knowledge has positive effect on the reliability of products of manufacturing firms in Enugu State
N		326
Normal Parameters	Mean	3.842
	Std Deviation	1.354
Most Extreme	Absolute	.331
Most Extreme	Positive	.201
Differences	Negative	-.331
Kolmogorov-Smirnon Z		5.984
Asymp. Sig.(2-tailed)		.000

Source: SPSS Version 20

- a. Test distribution is Normal
- b. Calculated from data

5.3.1. Decision Rule

If the calculated Z-value is greater than the critical Z-value (i.e $Z_{cal} > Z_{critical}$), reject the null hypothesis and accept the alternative hypothesis accordingly.

5.3.2. Result

With Kolmogorov-Smirnov Z – value of 5.984 and on Asymp. Significance of 0.000, the responses from the respondents as display in the table is normally distributed. This affirms that the assertion of the most of the respondents that employee retention of knowledge has positive effect on the reliability of products of manufacturing firms in Enugu State.

5.3.3. Decision

Furthermore, comparing the calculated Z- value of 5.984 against the critical Z- value of 1.96 (2-tailed test at 95% level of confidence) the null hypothesis were rejected. Thus the alternative hypothesis was accepted which states that employee retention of knowledge has positive effect on the reliability of products of manufacturing firms in Enugu State.

5.4. Discussion of Findings

From the result hypothesis one, comparing the calculated Z- value of 5.632 against the critical Z- value of 1.96 (2-tailed test at 95% level of confidence) the null hypothesis were rejected. Thus the alternative hypothesis was accepted which states that employee absorbed knowledge has positive effect on standard product of manufacturing firms in Enugu State

In line with the hypothesis, [Ouma and Kombo \(2016\)](#) conducted a study to examine the effect of organizational learning on organizational performance in food manufacturing firms in Nairobi Country Kenya. The study results revealed that there was a positive and significant relationship between organizational learning and organizational performance. From the result hypothesis two, the calculated comparing the calculated Z- value of 5.819 against the critical Z- value of 1.96 (2-tailed test at 95% level of confidence) the null hypothesis were rejected. Thus the alternative hypothesis was accepted which states that Employee undergoing a process has positive effect on the features of manufacturing firms in Enugu State.

In support of the hypothesis, [Von-Briel et al. \(2018\)](#) stated that knowledge absorption is more effective when there is a mutual flow of information from one entity to the other. From the result hypothesis three, the calculated comparing Z- value of 5.984 against the critical Z- value of 1.96 (2-tailed test at 95% level of confidence) the null hypothesis were rejected. Thus the alternative hypothesis was accepted which states that employee retention of knowledge has positive effect on the reliability of products of manufacturing firms in Enugu State

6. CONCLUSION

The study concluded that learning culture is one with organizational values, systems and practices that supports and encourages both individuals, and the organization to increase knowledge, competence and performance levels on an ongoing basis. Quality products make an important contribution to long term revenue and profitability. learning could help an organization stay ahead of its competitors. Through learning, organizations and individuals are able to adapt to new ways of doing things. The ability to learn is an innate quality that every human being possesses.

7. RECOMMENDATIONS

From the findings the following recommendations were made:

- i. Inspection technique has to be maintained to facilitate the utilization of best practices.
- ii. The management of firms should provide a sustainable framework that will allow organizational learning among organizational workers for cross-fertilization of innovative ideas.
- iii. Product ordering techniques should be highly observed for best practice in global manufacturing and business.

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