



Assessing the Awareness of Local Consumer's Product Producers towards Packaging Standards in Tanzania

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ABSTRACT

Packaging plays an important role in ensuring that the produced product is well contained, protected, and preserved. Due to its significance, the researcher decided to undertake research aiming at examining the awareness of local producers towards products' packaging. This research employs a descriptive design in carrying it out where a sample of 120 respondents from different companies give a list of questions regarding packaging and also inspection is done in the market to observe how the products have been packed. Findings revealed that the awareness of Tanzanian local producers is still very low whereby 75% of packaging workers are unskilled. Also, training regarding packaging is not conducted in an effective manner as most companies train their employee only once when they employ them. It is also noted that the local producers mainly focus on the ability of the package to contain the product paying less attention to the ability of the package to protect and preserve. Based on these findings, it is suggested that the knowledge of value chain management has to be imparted to local producers by the local business institution. It is also proposed that training should be given frequently to packaging crew to ensure they do their job effectively. Moreover, it is recommended that to increase the efficiency and cost reduction, it is better for companies to employ experienced workers or those with at least form six or high level of education in packaging section as it is easy to train and they can understand easily.

Keywords: Product, Packaging standards, Awareness, Consumers, Local producers.

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1. Introduction

It is undisputed facts that industrial development does not rely on a single factor, but it is an integration of the various factors which when be considered equally, then the actualization of industrial development will be attained. Some of the critical areas that normally boost industrial development include technological advancement that ensures the development of processes and

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product, government policy for promoting investors, market assurance for the produced products as well as product competitiveness specifically based on quality [1]. Integrating all these factors without disregarding either of them will definitely result in industrial development. Following the role played by each of the critical aspects, this paper spotlight on the issues concerning product competitiveness. Competitiveness of a product is again an integration of multiple entities that includes the quality of the product, packaging standards, price, delivery time, etc. More specifically, the study focuses on how well the local producers are aware of packaging standards.

1.1 Problem Statement

Starting a business is one thing and winning customers is another thing. One can be sure of producing products as much as he or she can, but on the other hand, if the customers are not persuaded to buy the product the business will fade away. Persuading customers is a complex task due to the fact that they are exposed to more than one product choices within 30 minutes shopping session [2]. Most of the local producers normally disregard packaging which a large extent bears the convincing power and draw the attention of customers towards a specific product. This is witnessed by the way local products are packed in comparison to the imported ones. These results to customers churn as they are sceptical of whether the product will be of higher quality or not, simply because a good package helps to differentiate and identify products to the customers [3]. At last, most of the local consumer's product producers end up with low sells in the market compared to imported products and obstruct them from expanding their business. This also might has been an obstacle when it comes to exporting their products to the international market as they do not meet standards of a destination country.

1.2 Purpose of the Study

The main purpose of this study is to access the awareness of local consumer's product producers towards products' packaging.

1.3 Research Questions

Generally, the study address the following questions:

- What is the demographic profile of the respondents in terms of:
 - Education level.
 - Area of specialization.
 - Working experience.
- What is the worker's response towards the frequency of training regarding packaging standards?
- What is the worker's response towards inspection of packaging material and style before issuing products to the market?
- Is there any relationship between packaging standard awareness and demographic profile of the respondents?

2. Literature Review

Since its inception in the year around 1800 by British tool and die maker, the standardization continued to bring lots of advantages when it came to conduct business. It is one of the achievements that enables and simplifying business activities in different places around the world. Through standardization, people are able to produce products that conform to standards of different countries and make it easy to export to different destinations. This part will spotlight the general overview of the standard, standards in manufacturing, and more specifically on packaging standards as specified by Tanzania Bureau of Standards (TBS).

2.1 Standards

Standard is simply referred to as a level of quality which a company focuses to attain in its products or services offered to customers. It is the defined rules and procedures or guidelines that a company or organization needs to abide by aiming at achieving maximum level of the quality that satisfies both customers as well as the company itself. Standards can be developed and governed by the Standard Development Organization (SDO) or independently by a firm that dominates the market [4]. According to Tarondeau [5], the standardization results in higher productivity, larger lot sizes, decrease in the number of reference points to be managed, decrease in the stock level, and the reduction of complexity of a manufacturing system.

2.2 Standards in Product Manufacturing

Standard plays a vital role in manufacturing industries which is to ensure that the level of quality pertains to a certain product is reached while satisfying both producer and consumer [6]. Usually, standardization in product manufacturing is not a single area that focuses on activity but it is an integration of multiple parties which the product quality relies on. Any company that disregards standard in its manufacturing activities will surely lose market position to competitors. Product standardization mostly focuses on the following areas during manufacturing activities;

2.2.1 *Standards on materials used*

Quality of a product mostly depends on the quality of the material that has been used to make it. Material normally dictates the durability of a product, performance, as well as customer assurance in the market. The company standards based on material should focus mainly on the source from which the materials came from. This is a very prior area which any company must ensure that it is free of variances to avoid any compromise [7]. Failure to do, so, the final product may end up with low level of quality.

2.2.2 Standard on process

Usually, to produce a product, it has to be taken through different processes. Each process that the product is taken contributes to the final quality of a product. Thus whatever is required to be done in any process should be done by considering standards. All critical parameters of a process must be analysed to ensure critical quality attributes throughout production [8]. Process standards is a critical part where despite the good quality of the material if the processes which materials are processed does not conform to the standard, it is clear that the end product will be of poor quality.

2.2.3 Packaging and labelling standard

Packaging refers to the process that involves the protection, preservation and containing a product for the purpose of distribution, storage, sales, as well as usage. It generally encompasses four distinct marketing functions such as containing and protecting the product, promoting it, helping consumers to use the product, and facilitating recycling to reduce the environmental impacts [9]. Labelling is normally a supplement to packaging as it helps consumers to differentiate product more easily [10]. The product might be produced in such a way that it conforms to both the process standards as well as material standards. Conversely, the same product might fail to perform in the market only due to the fact that packaging and labelling are not of intended standards. It is obvious that in the market specifically for consumer products, people are very conscious of the way product looks like. According to [11], at the point-of-sale in supermarkets and hypermarkets where people buy large quantities of groceries, as well as in specialized chains with more assortment, the uninformed consumer chooses prevalently on the basis of packaging. Only package and label are enough to convey a positive or negative message to a customer who is about to buy the product [12]. Regardless of how durable a product is, or what level of quality a product has, a customer might not be able to identify them simply because they are internal attributes of the product. The very first thing to be noted by a customer is the appearance of the product in its package as well as the label. Generally, packaging and labelling are one of the substantial areas to which a company must ensure that they are appropriately done according to the standard. This is mainly because they add more values to a product itself, company, as well as the consumer in the following ways:

- Security. During shipment of product, packaging normally plays a key role in ensuring that what is packed inside is well protected against external circumstances that might destruct the product. As pointed out by Tanzania Bureau of Standards (TBS) in TZ 1531: 2012 (4.3) which pertains to flexible carrier bags for transport of various retain goods, packaging materials shall be agreed between supplier and buyer taking into account some conditions. They can be made with tamper resistance to deter manipulation and also having tamper-evident features which indicate tampering has taken place.

- **Marketing.** Usually the first thing to be noted by customers on the product is the way packaging and labelling have been done. Normally, consumers' perception towards the quality of the product could be changed by considering the quality of the packaging material [13]. It is obvious that customers can be persuaded to buy the product following the quality and appearance of the package used to pack a product. Also according to Shah [14], in case a customer is undecided on what to buy among products, package becomes an important tool in the buying choice because it communicates to the consumer during the decision making time.
- **Information sending.** Labelling is the most visible part that provides the description of the packed product. Information on the packaging is an important component as it conveys a message to consumers on how to use the product, the price of the product, ingredients, expiration date, etc. Generally, standard packages are characterized by having all these basic information. Some of the important information to be included in packages are pointed out in TZS 1531: 2012 (6.1).
- **Barrier for protection.** Some products are manufactured in such a way that no any other contamination is allowed to penetrate and mix with the product as they will affect the product quality. Packaging acts as a barrier to protect any permeating to the product. In that sense, packages must be of good quality and compacted to protect products. Some important considerations in packing and labelling are pointed out by Itella logistic company [15] as follows:
 - **For outer and inner packages.** Packages are of two kinds, the inner and outer packages. For outer packages such as cardboard, plastics, wood, etc. must ensure that the cargo does not pose any risk regarding other consignments, personnel or the environment. The items inside the package must be protected against any circumstances such as loss and damage in case the package is rotated in any direction, other packages are loaded on top of it, or when the package is jolted during loading or transporting. Same wise for the inner packages, the empty space inside the material must be filled with materials such as rubber, paper, etc. to resist the movement of the packed product inside.
 - **Fragile items.** These items must be packed in such a way that there will be no contact between one items with the other one to avoid breakage while carrying or transporting them.
 - **Sealing the package.** Sealing properly ensure that the product will not damage when removing the seal. The package have to be sealed by adhesive tape, plastic foils, and taking into account that heavier product, more firmly needs to be packed.

3. Research Methodology

3.1 Research Method

The research generally employed a qualitative approach which is descriptive in nature aimed at collecting information through the use of questionnaires and observation. The descriptive research is normally attributed with gathering information, analysing, and tabulating data about prevailing conditions, practices, and beliefs followed by drawing inferences regarding the collected information through the use of statistical tools as described.

3.2 Sampling and Sampling Procedures

The researcher conducted the direct visitation to companies producing consumer products and at first; the questionnaires were provided to quality supervisor(s) and packaging crew. Since the research employs questionnaires in data collection and the target population is known, the formula in Eq. (1) for calculating sample size developed by Yamane [16] was used.

$$n = \frac{N}{1 + Ne^2} \quad (1)$$

Where “n” is the sample size, “N” is the population size, and “e” is the precision level.

By using Eq. (1) above, the calculated sample size for collecting the information was 120. The visitation was limited to only consumer's product producers' such as wheat products (i.e. bread, snacks, and other related), tea bags, soft drinks, potatoes/bananas' products (i.e. dried chips and banana), groundnuts, and cashew nuts. However, the researcher did not end up with only the information gathered through the questionnaire but further conducted a visual inspection of the produced products. For visual inspection, visitation was done to few medium and large supermarkets and also to the local shops around the city (Dar es Salaam) to observe the packaging standards of the products ready for sale.

3.3 Research Instruments

The research used a questionnaire to gather information especially from workers in the companies. This provides a general understanding and perception of workers towards standard on the packaging. The questionnaire is composed of two sections one with the demographic profile of the respondents and the other shows the questions pertaining to packaging standards such as frequency of training, inspection during, and after packaging process and relationship between their awareness and demographic profile. Another instrument is the observation through visual inspection of packed products in medium and large supermarkets and local shops. The inspection was done by considering factors that determine the standard of packaging as described in ISO 18602 which includes the ability to protect the products, contain it and preserve under reasonable foreseeable condition of manufacture, distribution, warehousing, retailing, and use.

3.4 Data Analysis

In this study, the collected data from questionnaires and observation/inspection were analysed using statistical tools and description. The statistical tools employed were frequencies and percentages. Both frequencies and percentages were used to analyse the demographic profile of the respondents as well as questions pertaining to standards on packaging.

4. Findings and Discussions

This part is mainly concerned with the data presentations using statistical tools and their interpretation. It also focuses on discussion especially from the results obtained from both questionnaires and observations.

4.1 Results from Questionnaires

Table 1 shows the demographic profile of the respondents as described in the research questions. From the table below, based on the education level out of one hundred and twenty respondents about 90 respondents (75%) are primary and ordinary level certificate holders while the rest are divided to advance and university level certificate holders. The specialization is basically concerned with subjects which individual took while in secondary education and degree/diploma program for those who are university certificates holders. Considering that, 35% of the respondents are without specialization, while 25% and 40% are specialized in science and arts schemes, respectively. On the other hand, 60% of the respondents had less than 2 years of work experience and some have no work experience in packaging section while 21.7% and 18.3% had 2 and more than 2 years of experience in packaging section, respectively.

Table 1. Demographic profile of the respondents.

Profile		
Education level	Frequency	Percentage
Primary school to Ordinary level	90	75
Advanced level	18	15
University level	12	10
TOTAL	120	100
Specialization	Frequency	Percentage
No	42	35
Science scheme	30	25
Arts scheme	48	40
TOTAL	120	100
Work experience	Frequency	Percentage
Less than 2 years	72	60
2 years	26	21.7
More than 2 years	22	18.3
TOTAL	120	100

Table 2 presents the response from sample concerning frequency of training regarding packaging standard. Finding reveals that 60% of the respondents especially those who are doing packaging activities are receiving training at the first time when they are employed by the company. However, in the later time, there was no training provided to them for keeping them aware of how significant packaging standard is. Very few of them i.e. 4.2% agreed that they are frequently

trained. This means that most companies ignore training regarding packaging which will have an impact on the future time when it comes to competing with substitute products in the market. Moreover, 20.8% of the respondents were on job training at the first time which is common in many companies after recruiting employees. Though in some companies training is not really the case they usually do job apprenticeship whereby a person will be learning gradually through the experienced workers in the same company but no any official training is provided to the employee. Fifteen percent of the respondents receive training occasionally in case of product package fails while transporting to a different destination or when the inspection is conducted though not frequently.

Table 2. The response towards packaging training.

S	Training concerning packaging standards.	f	%
1	The job training was given for the first time when we are employed.	25	20.8
2	They receive training regularly to increase our awareness towards packaging standards.	5	4.2
3	After first time training, they receive no further training concern packaging.	72	60
4	They occasionally receive training in case anything happens regarding packaging.	18	15
TOTAL		120	100

Table 3 reflects how well companies consider inspection, especially in packaging. It is clear that most companies disregard inspection in packaging as almost 56.7% of the respondents concluded that there is no inspection at all after packaging. The companies only inspect sensitive processes that their effects are widely known in case of any defect. It is also common in most companies to react especially if something unusual happens especially if there is any defect detected. This is clearly identified in the table whereby 20.8% of the respondents agree with the fact that inspection is only done in case of any defect. Very few companies seem to be aware of the significance of packaging standards as they normally conduct inspection in a continuous manner while the remaining 12.5% and 5.8% conduct inspection on a regular base and once during the commencement of the process, respectively.

Table 3. Response towards inspection.

S	Inspection of packaging standards	f	%
1	There are no inspection of packaging at all.	68	56.7
2	Inspection is done on a continuous manner.	5	4.2
3	Inspection is done on a regular bases.	15	12.5
4	Inspection is done only at the beginning.	7	5.8
5	Inspection is done in case there are any defects detected in packaging	25	20.8
TOTAL		120	100

Nevertheless, to find out if there is any relationship between demographic profile and packaging standards awareness, the respondents were tested by answering some few questions pertaining packaging, and their scores were categorized into three groups as in Table 4. The results clearly show that, there is a relationship between packaging standards awareness and their demographic profile. As in Table 4, the average score considering their levels of education, those who are graduates from university, their awareness is much higher compared to the two levels in the same category. In the case of specialization especially for graduates, science graduates surpass the other two by having a 72% score in the test. Also, work experience has something to contribute to worker's awareness on packaging standards as indicated in the table whereby the more experienced workers score are more than the less experienced one. Finally, the results revealed that in all three categories such as education level, specialization, and work experience, on average and specialization matters, when it comes to recruiting workers specifically on packaging section whereby those who are specialized in science their awareness is higher, which is 57.5% compared to the remaining two categories. This implies that the priority has to be given to science specialized people in the packaging section. For those who are not specialized in science, it is obvious that extensive training should be provided to them to increase their awareness which on the other hand increases cost to companies.

Table 4. The relationship between demographic profile and the packaging standard awareness.

Education level	Score
Primary to ordinary level	30%
Advance level	55%
University level	68%
Average	51%
Specialization	Score
Not specialized in any subjects	48%
Specialized in arts subjects	52%
Specialized in a science subject	72%
Average	57.50%
Work experience	Score
Less than 2 years	50%
2 years	50%
More than 2 years	55%
Average	51.67%

4.2 Results from Observation

As mentioned earlier, the observation was done through the visual inspection for few consumer products. The inspection was done by focusing on the three primary objectives of packaging i.e. to contain, to protect, and to preserve the packed product. Packaging materials are required to have the ability to protect, contain, and preserve the product without compromising any of the three critical areas. The three aspects were determined by considering factors such as quality of the packaging material (major and minor), size of the package to accommodate the product, compactness of the package, and other minor considerations including style of packaging. The results are presented in Table 5 in which scores have given to each factor corresponding to each aspect after inspection. Scores are distributed in such a way that the highest score is one (1) and zero is the minimum score (0).

Table 5. Aspects of packaging material.

Aspects /Factors	Ability to contain	Ability to protect	Ability to preserve
Quality of a major package	0.4	0.3	0.2
Quality of a minor package	0.4	0.4	0.1
Size of the package	0.7	NA	NA
Compactness	0.5	0.2	0.2
AVERAGE	0.5	0.3	0.17

The table above clearly points out that most of the packaging materials are of poor quality especially in terms of hardness. The thickness of packages is not thick enough especially for tea and bread packages. Thus the package will absolutely fail to withstand different conditions while transporting, handling, and storing products. To cite an example, the internal package of the tea

leaves from few companies are very weak in a manner that after you put into a hot water to stir, it does not sustain the hotness and allow the leaves to escape from the package while stirring. It was also seen that the compactness of the package is not satisfactory whereby they are very loose and fail to prevent foreign material such as dust from entering the product; this applies to both major and minor packaging materials such as nylon on top of the box to increase the compactness. Additionally, the style of packing is also affecting some attributes of a major package by blocking labels which display information of what is being packed inside. Finally, it has been a common understanding of Tanzanian local producers that package is all about to contain the product without considering the level of protection and preservation of products. This is clearly witnessed by the average score of the three aspects whereby the packages' ability to contain product has the highest score leaving behind the ability to protect and to preserve which are vital compared to the former one as they have direct impact to the packed product.

5. Conclusions

Based on the research findings, it concluded that it is undisputed truth that the awareness of most local producers specifically for consumer products as listed earlier is very narrow. Most of them disregarded packaging standard by assuming that it will have no effect to their product during selling without knowing that packaging also adds value to a product. According to the research, it revealed that the main reason for the producers to disregard packaging is mainly due to the fact that they lack a very critical and profound knowledge of value chain which encompasses four major areas such as inbound logistics, operations, outbound logistics, sales and marketing, and servicing. Within these areas, most of them were very sensitive to the major process that contributes to the quality of a product and compromising minor one which also adds competitive advantages in the market. The very interesting case was that some of the companies visited by researcher were asked to show some of the packaging standards developed within the company or bought from Tanzania Bureau of Standards (TBS) and unfortunately there were no any of the documented packaging standards, instead people were doing the job only considering their experience. This proved that most of the local producers disregarded packaging some intentionally or unintentionally by lacking the knowledge of the packaging itself. Considering the fact that Tanzania Bureau of Standard (TBS) is concerned with standards, still there is a gap between the bureau and the local producers in terms of cooperation. This witnessed by the way local producers packed their product whereby most of them lacked the TBS mark due to the fact that they did not see any impact of the mark in the market which limits their product to be sold in large and medium supermarkets.

5.1 Research Contribution

Generally, local producers are still disregarding packaging sometimes intentionally just because of the cost and other by not knowing how important packaging is when it comes to compete in the market. The research clearly noted this openly by comparing the package's quality of local

companies and those from outside. This paper was significantly going to contribute the following to the Tanzanian local companies;

- Increasing the awareness of packaging and its influence to local manufacturers.
- Promoting training to packaging crew on how standard package is to be done.
- Strengthening quality policy within the local companies.

5.2 Limitation of the Study

As stated earlier, the main concern of the study was to assess the producers' awareness regarding packaging standards; the study was limited by the following;

- In most of the companies visited, the researcher found difficulties in collecting the information as most of them were reluctant to cooperate. This resulted from inadequate knowledge about how significant packaging standard is when conducting business.
- While trying to understand their knowledge in packaging, the researcher also wanted to know if the companies develop and document their standards internally regarding packaging. Unfortunately there were no any documented standards that company uses as a reference when it comes to pack their product. If there would be documented standards, the researcher would have obtained enough information regarding the awareness of the packaging crew.
- Consultation to Tanzania Bureau of Standards was done seeking the possibility to obtain a specific standard regarding packaging of consumer products. Unfortunately, there was a general standard of packaging materials without identifying a specific products to be packed in. This limited the information regarding some question posed by the researcher while assessing the awareness.

Recommendations

Considering these findings, it is clear that the knowledge gap in packaging standard to local producers is a bit wide which needs to be reduced as soon as possible for the development of local industries. Continuous training has to be provided first to the top management, especially those who are concerned with packaging as they can easily transfer knowledge and initiate training sessions to their team members in the section. The training can be provided by various institutions, especially the ones in which business education is their core activity such as College of Business Education (CBE). Nevertheless, knowledge of value chain management is inevitable to Tanzanian local producers as most of them are lacking. This will definitely increase their awareness toward packaging standards as they will realize the significance of packing their product in an effective manner. However, the packaging is just a part within multiple areas where the local producers need to pull up their effort to penetrate the international markets. Among many critical areas that need due attention is the quality of the product itself. More research and analysis has to be done to compare and analyse different factors that will boost the quality of local producer to ensure that their products are not only for internal markets but also international wise. In addition to that, the standard bureau in Tanzania which is TBS has to extend their

responsibility by providing information to the local manufacturer about packaging and put their effort on imparting the knowledge to them instead of only selling the standards to those who need them. Nevertheless, it is clear that the literacy rate within the country is still not satisfactory, thus the majority of the workers in packaging are unskilled (75%). The researcher recommends that, considering the literacy rate level (77.9%), at least the skilled workers in packaging sections has to be 80%. This could be achieved by employing workers who are at least advanced level graduate and providing frequent training to them effectively.

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