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Original Research Article

Assessing the role of standards in enhancing the competitiveness of locally manufactured products in Zambia

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Abstract

The research seeks to find the relationship between the main factors (price and quality) that are deemed to influence competition and standards. Both primary and secondary data are used to develop and test the hypotheses. The research finds that competition in Zambia is mainly influenced by price and quality. The revelations of the research also show that most of the firms do not compete favourably in the market. Further, it is found that the unfavourable competition experienced by the local firms was as a result of quality and cheap imported products. Moreover, all the hypotheses that are tested results in the rejection of the null hypothesis. This implies that there is indeed a relationship between standards and price and also standards quality. Despite these relationships it is found that there little use of standards among the manufacturing firms. The research also reveals that there is a strong relationship between competitiveness and quality and also competitiveness and price. Therefore, from the findings of the research, it is important that the Government help in the adoption and implementation of standards in order to boost the manufacturing sector's competitiveness globally as it is an important sector for economic development.

Keywords: Competitive, Manufacturing, Quality and Price, Standards

INTRODUCTION

The proliferation of manufacturing industries globally entails that competition is rapidly becoming the major problem for manufacturing industries especially for developing countries like Zambia. The competitiveness issue is a crucial element of interest for all governments, industries and economies that work under the principles of market economy. To be competitive and to stay at that position requires constant adjustments to market conditions, following the competitors and trends. Therefore, there is a need for restructuring the main production characteristics such as quality, standard and prices according to the demand of the domestic and the international market (Belgrade 2009). Increasingly, global purchasers demand products and services that meet rigorous and advanced standards of quality, not only to ensure that products and services integrate flawlessly with others in the supply chain, but also to satisfy customer expectations and to comply with the maze of technical regulations in importing countries (MCTI, 2011).

With the advent of product differentiation and niche and direct marketing, the reality that price is the basis of competition has changed, and now there are niche markets in which both individual and wholesale buyers are looking for products with very specific characteristics or special services (Ehmke, 2012). Product quality is an important dimension of international competition (Baller, 2013). Different scholars have different views on what quality really is; for instance Gilmore (2011) postulates that quality is the degree to which products conform to a design or specifications. Furthermore the qualities of a product are all contained in a standard. A standard on the other hand is a document, established by consensus and

approved by a recognized body that provides, for common and repeated use, guidelines or characteristics of activities or their results, aimed at the achievement of the optimum degree of order in a given context (ZABS, 2013). A standard can also be seen as a level of quality, especially one that people think is acceptable. In essence a standard is an agreed way of doing something. The process of making products conform to standards is known as standardization. Standardization is a key factor to support government's policies for economic growth, including competitiveness, innovations, and reduction of trade barriers, fair trading and protection of consumer interest, environmental protection and public procurement (SABS, 2005).

Brief Background to the Study

Before liberalization, most of the Zambian products were doing very well in terms of price competition. That time competition was mostly based on the price of a product. Thus, firms that offered the cheapest product would carry the day in the market place. Local prices were lower than the imported products at that time. This was because of the tariffs that were charged when importing into the country. Also the economy was less dynamic and people were not much exposed to foreign products. A tariff brought gain for domestic producers who face competition. The more it cost for consumers to buy imported products, the more they will turn to domestically/locally produced substitutes (Chipango 2011). However, after the liberalization of the economy, tariffs were reduced. After, Zambia being a member of COMESA and SADC, she went into agreements with COMESA and SADC Trade Free Area. These resulted into the local markets being infiltrated with foreign products. The liberalization of the economy brought the awareness of quality and cheap products into the market. To this effect the local industry has been facing challenges in terms of competing with these products as people are exposed to quality and cheap products. Thus competition has shifted from just being price based but to both price and quality based (Chipango, 2011).

Further, as a result of the liberalization of the economy, the Zambia Bureau of Standards (ZABS) Act No.22 was established in 1982 but this was repealed and replaced in 1994 by the standards Act CAP 416 of the laws of Zambia. The new Act redefined the functions, responsibility and powers of ZABS and created the standards council of Zambia to oversee the operations of ZABS. ZABS is the national standards body for Zambia. It is the custodian of national standards and acts as a link between local industry and regional and international standardisation, quality assurance and metrology (SQAM) organisation.

Research Motivation

The low levels of standards of locally manufactured products is one of the cited problems that make Zambian industries uncompetitive (MCTI, 2007). One of the major obstacles in accessing global markets for Zambian manufactured products is the lack of adherence to systematic and internationally acceptable quality standards (MCTI, 2011). Another challenge of business concerns in Zambia is how to manage competition. This is evidenced by the closure of many manufacturing firms (e.g. Zambia China, Mulungushi Textiles in 2008; Dunlop, Mwinulunga Pineapple Processing Company, Chipata Bicycle Assembly, Mansa Batteries) due to losses caused by low quality products which failed to compete with the cheap quality imported products and as a result left thousands unemployed. However, this has continued to hit the manufacturing industry. In an effort to assist local manufacturing industries, Government has pledged to compel super markets to stock local products as a way of supporting local manufacturing industries (ZAM, 2014). Although the government compels super markets to stock local products people will not buy these products as long as they do not conform to their required standards and their prices high. Therefore, this research seeks to assess the role of standards (ZABS) in enhancing the competitiveness of locally manufactured products.

Research Objectives

- To determine the relationship between standards and competitiveness.
- To determine the relationship between standards and quality.
- To determine the relationship between standards and price.
- To determine the relationship between quality and competitiveness.
- To determine the relationship between price and competitiveness.

Literature Review

Competition

Competition is one of the most powerful forces in society to make things better, in many fields of human endeavour. Competition is pervasive, whether it involves companies contesting markets, countries coping with globalization, or social organizations responding to societal needs. Rousenberg (1978) defines competition as a situation of a large number of consumers, when no manufacturer can demand or offer a quantity sufficiently

Table 1. Competitive advantage

	Cost	*Differentiation*
Broad-Market	1.*Cost leadership*	2.*Differentiation*
Specific Market	3a. *Cost focus*	3b. *Differentiation focus*

Source: porter, 1990

large to affect the market price. Competition can also be thought of as an attitude of being better than the other business groups. Competitiveness can also be defined as the ability and performance of a firm, sub-sector or country to sell and supply goods and services in a given market, in relation to the ability and performance of other firms, sub-sectors or countries in the market.

Moreover, every organization needs a strategy in order to deliver greater value to its customers for it to remain competitive (Porter, 2008). This strategy is known as a competitive strategy. However, whatever strategy a firm chose to use, only a firm with a competitive advantage will survive or gain a huge market share. This an advantage gained over competitors by offering customers greater value, either through lower prices or by providing additional benefits and service that justify similar, or possibly higher, prices (Kotler, 2008). Essentially a competitive advantage answers the question, “Why should the customer purchase from this operation rather than the competitor?” Thus, competition benefits the consumers by keeping prices low and the quality and choice of goods or services high. However, a competitive advantage is often a single key element that gives an edge to a business beyond what the competition has or does. Thus, strategy is what gives a firm a competitive edge over its competitors.

Competitive Strategies

The purpose of an organisation’s competitive strategy is to build a sustainable competitive advantage over its rivals. An organisation can have a strategy for each product or service and an overall strategy for the entire organisation (Thompson 1990). Thus, a competitive strategy is narrower than a business strategy. Porter offers three ‘generic’ competitive strategies to outperform other firms in a particular industry: low cost, differentiation, and focus (Porter, 1993). Furthermore, Porter argues that a firm's competitive advantage is determined by a competitive range, the breadth market that targeted by business unit or firm (Ibid). Before using any of these strategies, the firm or business unit must select the range of product variation to be produced, distribution channels to be used, buyer type who will be served, geographic area to be covered, and kind of industry that would be competing. The determination should reflect an understanding of the firm unique resources. In other words, a firm or business unit can select the target area (emphasis on mass market medium size) or narrow goals (emphasis on niche markets). This strategy can be combined from the two types of target markets and two competing strategies that produce four variations of generic strategies. When low cost and differentiation strategies is used to meet the target market area, and then known as cost leadership strategy and differentiation. If target market is narrow, then known as cost focus and focused differentiation strategies. (Table 1)

Cost Leadership

This is where an organisation works hard to achieve the lowest production and distribution costs by performing its activities at the lowest cost compared to competitors (Jaquier, 2003). This strategy involves the organisation winning market share by appealing to cost-conscious or price-sensitive customers (Porter, 1980). The sources of cost advantage are varied and depend on the structure of the industry: they may include the pursuit of economies of scale, proprietary technology, preferential access to raw materials and other factors (Porter, 1985).

Economies of scale

This is a cost advantage that organisations obtain due to size, output, or scale of operation, with the cost per unit of output generally decreasing with increasing scale as fixed cost are spread out over more output. There is a relationship between firm size measured in terms of volume of production and costs measured in terms of average costs per unit of production.

Achieving low direct and indirect operating costs

This is achieved by offering high volumes of standardized products. Production costs are kept low by using fewer components, using standard components, and limiting the number of models produced to ensure larger production runs. Other overheads are kept low by paying low wages, locating premises in low rent areas, and establishing a cost conscious culture.

Control over value chain

This means encompassing all functional groups to ensure low costs. This may mean for the supply/procurement buying in bulk to enjoy discounts, production being cost conscious.

The result of this strategy is low costs of production which results to low prices. Thus, this strategy is more like a price competitive strategy. A firm that pursues this strategy offers low prices than its competitors. However, this cost leadership strategy is most viable for large firms than for small firms.

Differentiation

This is an approach under which an organisation aims to develop and market unique products for different customer segments. Kotler (2002) defined differentiation as the process of adding a set of meaningful and valued differences to distinguish the organisation's offering from competitors offering. Here the organisation concentrates on creating a highly differentiated product line and marketing program so that it cuts across the class ladder in the industry (Kotler, 2002). An organisation selects one or more attribute that many buyers in an industry perceive as important, and uniquely positions it to meet those needs (Porter, 1985). This strategy is appropriate where the target customer segment is not price sensitive (Porter 1980). It works on the assumption that people are different and therefore, will go for special thing that are peculiar (Nsofwa, 2011). Customers are concerned with certain attributes when buying products, quality, price and availability being some of these attributes (Hamaiko, 2005). Thus, this strategy aims at producing products that are of certain quality standard than the competitor. Thus, the strategy is rewarded for its uniqueness with a premium price.

Focus

The generic strategy of focus rests on the choice of a narrow competitive scope within an industry (Porter, 1985). This strategy means that a firm sets out to be the best segment or group of segments. Kotler(2002) argues that under this strategy the company focuses its efforts on serving a market segment well rather than going after the whole market. It is aimed at building a competitive edge and carving out a market position by serving special needs of particular group customers, by concentrating on limited geographical market or concentrating on certain uses of the product (Strickland, 1987). Moreover, focus strategy should target market segment that are less vulnerable to substitutes (Porter, 1985). However, in most big firms it does work as a standalone strategy but can either be incorporated with cost or differentiation strategies.

Price Based Competition

Companies battle with each other in an attempt to earn the consumer's business. One of the most common strategies is to offer lower prices than the competition. This strategy is what Porter (1985) called the Low Cost Leadership. The process of setting a price involves the producer identifying their cost of production and adding a certain amount of profits to come up with the price. Thus, competitive pricing is setting the price of a product or service based on what the competition is charging. The process takes into account the cost of production, profit and the prevailing competition in the market place. Therefore, for a company to compete favourably in the market place it must come up with a price that is lower than its competitors.

Non-Price Based Competition

One of the keys to success in market competition is to differentiate products so that they can compete on the basis of quality or other non-price characteristic (Reed 1994).With the advent of product differentiation and niche and direct marketing, the reality that price is the basis of competition has changed, and now there are niche markets in which both individual and wholesale buyers are looking for products with very specific characteristics or special services (Ehmke 2012). Therefore, price has become a less competitive strategy as people are now looking for something that is beyond the price. From the above statement it is clear to note that a time has come when one should start thinking about value of an item and not the price or cost because value takes into account the criteria for which the consumer is ready to pay a price. It isfurther argued that analysing the pattern of criteria based on which the user pays price for an item or service, it has evolved that one pays the price for the following factors;

- Not immediate performance but the overall life performance.

- Ego satisfaction.
- Salvage or resale worth of an item.
- Sentimental attachment.

Therefore, without these factors the customer will not be willing to pay the price. Thus, price seems not to be a major challenge in competition but rather non price factors. The major obstacle that Zambian manufactured products face in accessing global market is lack of adherence to quality standards (GRZ, 2011).Product quality is an important dimension of international competition (Baller, 2013).The level of quality a product offers to consumers is a fundamental aspect of competition in many markets. Quality represents perhaps the key non-price consideration that determines whether consumers will purchase a product. In addition, to say that the theoretical link between market competition and product quality is ambiguous is an understatement (Crespi and Marrete, 2006). Bilich and Neto (2000) state that quality, as a macro function of institutions, must be present in the day-to-day running of an institution, in aspects such as establishment of policies, the decision process, selection of personnel, allocation of resources, definition of priorities and service delivery to satisfy customer requirements. The two authors continue and state that the quality approach, as a strategic element, has brought to institutions a new manner of conceiving quality, as it engages the top decision-makers of the institution in the effort for better performance in service delivery. According to Djerdjour and Patel (2000), quality is no longer an optional extra; it is an essential strategy to survive.

Moreover, Dale (2003) and Evans and Dean (2003) state that quality, reliability, delivery and price build the reputation enjoyed by an institution. However, quality is the most important of these competitive weapons. As a working definition, a high quality product can be described as a good which possesses one or more additional characteristics, which are valued by buyers. The characteristics which increase the willingness to pay may be either physically measurable, like speed, capacity, size, and durability; or they may be intangible, like reliability, design, goodwill, and trust. Quality may even arise simply through flexibility in use, compatibility, information, maintenance contracts etc. The consequence of higher quality is to allow a higher price without losing the market.

Quality Based Competition

The principle of studying the role of quality in a competitive market is to demonstrate that quality in the liberalized market plays a very important role as a strategy. The increasing demand and sophistication of customers have virtually modified the rules of competition and forced organizations over the world to focus on quality. Today, what underlies competitive advantage is the ability to provide products and services that meet or exceed the needs of customers (Irechukwu, 2010). This implies that to survive, organizations must device new management systems based on the tenets of Total Quality, and by offering quality products and services. This will not only lower costs but also outperform the products and services of competitors spread across the world. Global economic competition has increased in the past few decades (Nosakhare 2000). Therefore, organizations are facing the kind of competition that was not envisaged a few years ago.

Types of Quality

There are four different types of quality (Grunert 1996). These are product-oriented quality, process-oriented quality, quality control, and customer(perceived)-oriented quality. Product-oriented quality is measured by means of the product's physical properties, like fat percentage, muscle size of meat, etc. thus, differences in quality amount to the differences in the quantity of some desired ingredient or attribute. Process-oriented quality is concerned with characteristics of the production process, which are not necessary reflected in physical characteristics of the product, like the compliance of ISO 9001:2000 which is Quality Management System Standard (Kokemuller 2007). Further, customer-oriented quality is the subjective quality perception of a user. In short, customer-oriented is simply giving customers what they want and at a price they consider fair (Mwila, 2014).

Much of the discussion on quality in the manufacturing industry is concerned with product and process-oriented quality and quality control, while the consumer evaluates and pays for subjectively perceived quality. Changes in the objective quality will lead to a better competitive position of the manufacturing firm, only if these changes lead to cost reductions for the participants in the manufacturing chain or if the changes in objective quality lead to changes in subjective quality (Grunert & Juhl, 1995).

Determinants of Perceived Product Quality

The determinants of perceived product quality can be divided into two types. One is intrinsic cues and the other is extrinsic cues (Olson, 1972). Consumers use quality cues, because product quality aspects cannot be sensory evaluated at the point of purchase (like taste). Thus, intrinsic and extrinsic cues are characterised as quality cues (Olson and Jacoby, 1972).Intrinsic quality cuesare part of and specific to the physical productincluding size, colour, flavour, appearance, or aroma (Vantamay, 2004). They cannot be changed without changing the essense

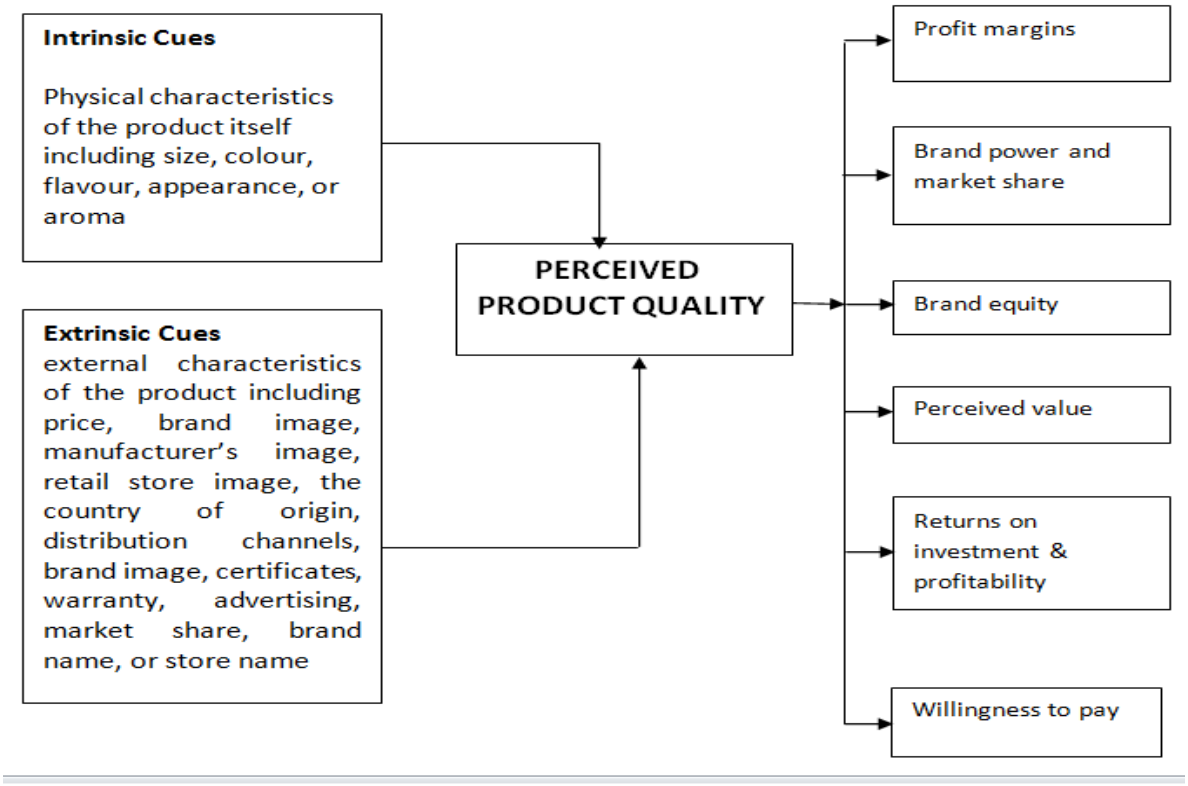

Figure 1. Model of determinants and consequences of perceived product quality
Source: Vantamay, 2004.

of the product itself. Consumers can use these physical characteristics to judge product quality. Consequently, some companies invest heavily in improving physical characteristics of their products (Vantamay, 2004).

Extrinsic quality cues on the other hand, are everything else that is related to the product or its production process. These are also called 'image variables' such as brand name, price, peer support and origin (Erickson, Johansson, and Chao, 1984). Extrinsic attributes are not product specific and serves as a general signal for quality across different products. Price, brand name, and level of advertising are frequently associated with quality in research, although there are many other extrinsic cues useful for the consumer. Consumers prefer intrinsic attributes over extrinsic attributes in the formation of perceived quality judgements, and use the latter only if they do not feel competent to evaluate a product on its intrinsic attributes (Grunert, 1986; Steenkamp, 1989).

The model in figure 2.1 shows the determinants (i.e. intrinsic and extrinsic) and consequences of perceived product quality.

It is worth noting that standards and quality are intrinsically connected, in that standards are often used to codify the technical characteristics expected by customers. In fact, the entire industrial infrastructure that is used to create quality goods and services relies on standards (Guasch, 2007).

Standards

A standard according to the International Organisation for Standardisation (ISO, 1996) can be defined as a document that is established by consensus and approved by a recognised body that provide for common and repeated use, the rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context". Standards are powerful tools that can help drive innovation and increase productivity (British Standards Institute (BSI) 2014. Moreover, standardisation aims at ensuring efficiency in production and delivery of quality goods and services and the removal of all technical barriers to domestic, regional and international (Kioko,2010).

Types of Standards

Standards can be divided into three categories. That is product, process and management system standards (ISO/UNIDO 2010).With the increasing globalisation of markets, International Standards (as opposed to regional or national standards) have become critical to the trading

process, ensuring a level playing field for exports, and ensuring imports meet internationally recognised levels of performance and safety (Stroyan and Brown 2012).

Benefits of Standards

In the early years, standardisation was a means to ensure product quality and ensure public safety. Moreover, it has now become a competitive tool for industries and businesses, enhancing productivity (SABS, 2005). Standards play an important role in the economy, facilitating business interaction, growth, competitiveness and access to markets (Stroyan and Brown 2012). The two further add that standards play a number of important roles in the economy, and ultimately support innovation, growth and competitiveness across Europe and the world. Standards can also facilitate the exchange of goods, information and services through the elimination of barriers to trade caused by provisions of a technical nature, and thereby to ensure a large unified market promoting competitiveness and fostering innovation (European Standardization System (ESS) 2010). Guasch et al. (2007) comments that standardisation is the systematic use and adoption of quality standards and technology that allows developing-country producers to close the gap with the leading countries. Ultimately the benefits standardisation is expanded market through; better utilization of resources, better communication, variety of control, fitness for purpose, interchangeability, compatibility, safety, health, environmental protection, removal of trade barriers and technological transfers (UNIDO, 2006).

Theoretical and Conceptual Framework

Porter's Generic strategic theory

Ideally, strategy is about answering two questions: where do we want our business to go, and how are we going to get there? Therefore, in line with the foregoing questions, competitive strategies involve taking offensive or defensive actions to create a defendable position in the industry. A firm positions itself by leveraging its strengths and minimising its weaknesses.

According to Tanwar (2013) Michael Porter has argued that a firm's strengths ultimately fall into one of two headings: cost advantage and differentiation. By applying these strengths in either a broad or narrow scope, three generic strategies result: *cost leadership*, *differentiation*, and *focus*. These strategies are applied at the business unit level. They are called generic strategies because they are not firm or industry dependent.

Differentiation Strategy

A differentiation strategy calls for the development of a product or service that offers unique attributes that are valued by customers and that customers perceive to be better than or different from the products of the competition. The value added by the uniqueness of the product may allow the firm to charge a premium price for it. The firm hopes that the higher price will more than cover the extra costs incurred in offering the unique product. Because of the product's unique attributes, if suppliers increase their prices the firm may be able to pass along the costs to its customers who cannot find substitute products easily.

Cost Leadership Strategy

This generic strategy calls for being the low cost producer in an industry for a given level of quality. The firm sells its products either at average industry prices to earn a profit higher than that of rivals, or below the average industry prices to gain market share. In the event of a price war, the firm can maintain some profitability while the competition suffers losses. Even without a price war, as the industry matures and prices decline, the firms that can produce more cheaply will remain profitable for a longer period of time. The cost leadership strategy usually targets a broad market.

Standards

Standards play an important role in the economy, facilitating business interaction, growth, competitiveness and access to markets (Stroyan and Brown 2012). The two further add that standards play a number of important roles in the economy, and ultimately support innovation, growth and competitiveness across Europe and the world. Among the benefits of standards are reduced cost, improved quality and increased competitiveness. Thus, the research tries to apply these theories in the Zambian situation as they have proved to work in Europe and other parts of the world.

Research Hypothesis

This gives an insight into how the researchers' derived the hypothesis formulated for this research. The research hypothesis should be expressed as the alternative hypothesis. Five major hypotheses will be tested in this research which will help to answer the research questions highlighted in chapter one. Therefore, the research hypotheses are:

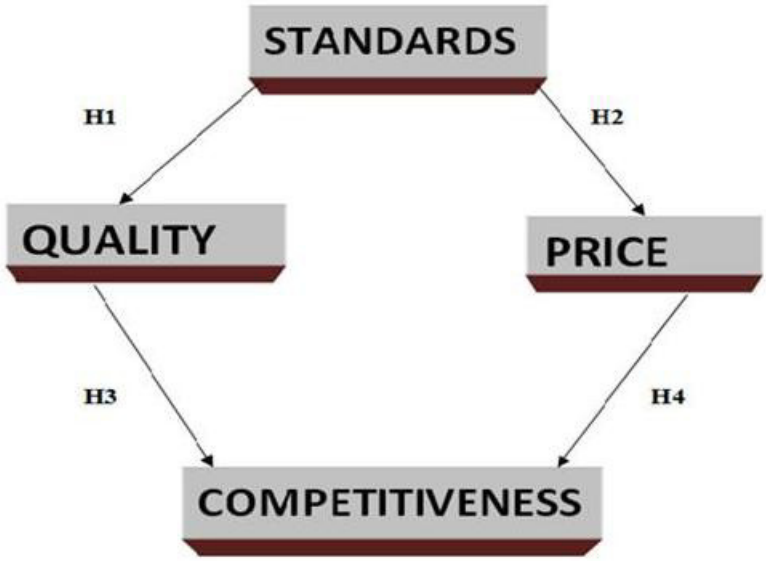

Figure 2. Conceptual framework

1. H_0: there is no relationship between standards and quality.
H_a: there is a relationship between standards and quality.

2. H_0: there is no relationship between standards and price.
H_a: there is a relationship between standards and price.

3. H_0: there is no relationship between quality and competitiveness.
H_a: there is a relationship between quality and competitiveness.

4. H_0: there is no relationship between price and competitiveness.
H_a: there is a relationship between price and competitiveness.

METHODOLOGY

The research undertook both a qualitative and quantitative approach. This is because the research tried to conceptualize the role of standards in competitiveness and analyse the data.There are over 100 manufacturing firms in Lusaka, the Zambia's capital city. However, in order to collect authentic information, the research was restricted to companies affiliated with the Zambia Association of Manufacturers. Therefore, a sample of these affiliated manufacturing was conducted. According to Churchill and Brown (2004), the correct sample size in a study is dependent on the nature of the population and the purpose of the study. The sample size usually depends on the population to be sampled, although there are no general rules. Generally, sample sizes larger than 30 and less than 500 are appropriate for most research. The following formula was used to estimate the sample size:

$$n=Npq/(N-1)+pq = 50*(0.5)*(0.5)/(50-1)*(0.0025) + (0.5)*(0.5) =$$

$$12.5 / 0.3725 = 33.557 \approx 33$$

Where; N=population size

n=sample size

p=probability of population stratum=0.5

D=standard deviation of population=0.0025

q=1-p

Based on this datum, this research used the sample size of 33 respondents as this was sufficient to give general representation of the population. However, only 32 respondents responded to the questionnaires. The questionnaire, which contained both open ended and closed questions, was used for data collection. The essence for these questionnaires was to weigh the different views of groups in each department of ZABS and manufacturing firms studied in the research.

Further, most of the secondary data obtained was from the publications of Ministry of Commerce Trade and Industry, Zambia Bureau of Standards, Zambia Development Agency and Zambia Association of Manufacturers which outlined the problems, policies and performance of the manufacturing firms. An official publication by the United Nations Industrial Development Organisations on the roles of standards in which it outlined strategies that would help developing countries to overcome trade participation constraints and to achieve a palpable increase in exports. In addition,

Table 2. Years in operation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-5	15	46.9	46.9	46.9
	5-10	11	34.4	34.4	81.3
	10+	6	18.8	18.8	100.0
	Total	32	100.0	100.0	

Table 3. Competitiveness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Unfavourably	14	43.8	43.8	43.8
	fairly favourably	11	34.4	34.4	77.2
	Very Favourably	7	21.8	21.8	100.0
	Total	32	100.0	100.0	

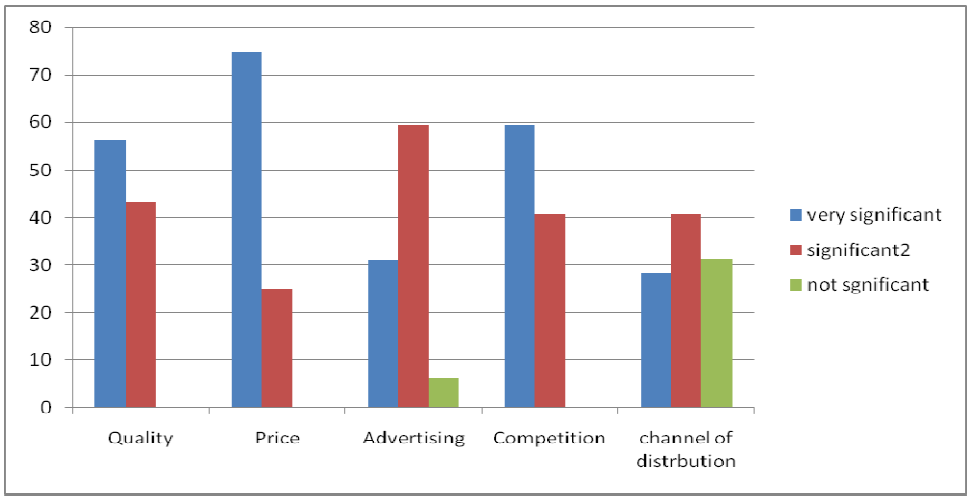

Figure 3. Significance of factors on competitiveness

books, journals, articles and other publications relating to the research under study.

Data Processing and Analysis

Two different types of software were used in principle and these include the Statistical Package for Social Sciences (SPSS) and MS Excel. Initially, the responses from individual questionnaires were coded and inputted on the SPSS platform and analysed. However, where limitations were observed as in case of calculations, data was exported to MS Excel for further processing.

FINDINGS AND ANALYSIS

Length of Business Operation

As shown in table 2, 46.9% respondents fell in the range of 0 to 5, 34.4% respondents were 5 to 10 and 18.8% were in the range of 10 plus years. This clearly shows that most of the manufacturing firms are in the range of small to medium range. With the two contributing to about 81.3% of the total respondents. The results have a mean of about 1.76 implying that most firms are still in the early years of existence.

Competitiveness

The table 3 shows that most of the firms are competing unfavourably constituting about 43.8% of the total respondents. 34.4% of the respondents compete fairly favourably with most of these coming from the food and beverages industrial sector. Most the firms that compete fairly favourably are within 5 years and above of operation. However, only about 21.8% of the respondents compete very favourably of which most are those in the food and beverages industrial sector with almost all of the being in the range of 10 plus years in operation. (Figure 3)

Findings on the Factors that Influence Competitiveness

The chat shows the significance of some factors on competitiveness. A question was asked to the respondents to find out the impact of these factors on the sales of their products. The factors considered under study were quality, price, advertising, competition and the channel of distribution. This was used to help the research to gain understanding on the factors that really affect competition in the Zambian set up.

Quality

The results show that about 56.3% of the respondents said that quality has a very significant impact on the competitiveness of their firm. About 43.3% responded that quality has a significant impact with non on not significant. This shows that quality has a high bearing on the competitiveness of a firm. The manufacturing firms claimed that this due to the high importation of products of high quality. Thus, there products fail to compete on that basis.

Price

Prices however, shows that about 75% responded that it has a very significant impact with 25% stating that it is significant. This illustrates that prices has a very high bearing on the competitiveness of a firm. The respondents attributes to the importation of cheap goods from countries like China as result of their failure to compete on this basis. Also the cost of raw materials was attributed as one other major cause.

Advertising

31.1% shows that advertising is a very significant factor on competitiveness with 59.4% showing significance and 6.3% not significance. Advertising has a total significance of about 90.7%, moreover, about 6.3% of the respondents state that it has no impact on competitiveness. Most of the respondents show that companies that do not advertise their products well face challenges in terms of competition as this very has a significant impact on competition

Competition

Among the factors that were considered is competition, this shows the competition firms receive from rival firms. This factor was included simply to try and demonstrate the level of competition. 59.4% responded that competition has a very significant impact on competitiveness and 40.6% said it was significant. This indicates that there is high competition in the Zambian market.

Channel of Distribution

Channel of distribution shows that 28.1% responded very significant, 40.6% significant and 31.3% said it is not significant. This shows that some firms, about 31.3% think that this factor has no impact on competitiveness. Among the manufacturing firms that compete very favourably stated that channel of distribution has a very significant impact on competition as they are able to provide for a very large market hence gaining a market share in every portion of the market.

Correlation and Hypothesis Testing

Correlation coefficients tell us the strength with which the two variables are associated or related. Bivariate correlation was used to test the relationships between standards, quality, price and competitiveness as stated in the hypothesis. The Pearson correlation is mostly used in parametric statistics when both variables are at least approximately normally distributed. The correlation varies from -1.0 (a perfect negative relationship or association) through 0.0 (no correlation) to +1.0 (a perfect positive relationship) (Morgan, 2001)

In order to test the hypothesis of the study, the questions contained in the questionnaire were categorized according to each hypothesis variable. These were further tested with factor analysis. Factor analysis was an important tool to identify and replace redundant questions in each variable. There were four general steps in factor analysis namely suitability evaluation, factor extraction evaluation, factor loading findings and factor naming.

After factor analysis, questions that remained were grouped to answer one variable based on their level of correlation. However, some questions did not correlate and thus had to remain as standalone questions. This is why you see variables like price, basis and price and standards and standards development in the table though talking about price and standards respectively. Further a correlation table was developed using SPSS to test the correlation (relationship) of these variables based on the data collected.

Hypothesis one

H_0: there is no relationship between standards and quality.

Table 4. Correlations

Correlations

		standards	quality
standards	Pearson Correlation	1	.538**
	Sig. (2-tailed)		.001
	N	32	32
quality	Pearson Correlation	.538**	1
	Sig. (2-tailed)	.001	
	N	32	32

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

Table 5. Correlations

Correlations

		PRICE	standard
PRICE	Pearson Correlation	1	.363*
	Sig. (2-tailed)		.041
	N	32	32
standard	Pearson Correlation	.363*	1
	Sig. (2-tailed)	.041	
	N	32	32

*. Correlation is significant at the 0.05 level (2-tailed).

H_a: there is a relationship between standards and quality

The results of correlations revealed significant positive correlation for standards and quality with r=0.538 at a significant level of 0.01 (2-tailed). Thus, the data collected and analyzed show that there is a relationship between standards and quality. This is supported at 99% of the research findings. Therefore, the null (H_0) hypothesis was rejected. (Table 4)

Hypothesis Two

H_0: there is no relationship between standards and price.
H_a: there is a relationship between standards and price.

The results of correlations revealed a positive correlation for price and standards with r=0.363 at significance level of 0.05 (2-tailed). Thus, the results of the research show that there a relationship between price and standards. This shows that price is affected by standards. Thus, the null (H_a)hypothesis was rejected. (Table 5)

Hypothesis Three

H_0: there is no relationship between quality and competitiveness.
H_a: there is a relationship between quality and competitiveness.

Table 6. Correlations

Correlations

		Competitiveness	Quality
Competitiveness	Pearson Correlation	1	.562**
	Sig. (2-tailed)		.051
	N	32	32
Quality	Pearson Correlation	.562**	1
	Sig. (2-tailed)	.051	
	N	32	32

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

Table 7. Correlations

Correlations

		Price	Competitiveness
Price	Pearson Correlation	1	.419*
	Sig. (2-tailed)		.017
	N	32	32
Competitiveness	Pearson Correlation	.419*	1
	Sig. (2-tailed)	.017	
	N	32	32

*Correlation is significant at the 0.05 level (2-tailed).

The results revealed a significant positive correlation for quality and competitiveness with r = 0.562 at significant level of 0.01 (2- tailed). Thus from the re*spondents, it was revealed in the results that competitiveness is mostly affected by the quality of* the products. Thus, the results show a 99% significance level of correlation. Therefore, the null hypothesis (H_0) was rejected. (Table 6)

Hypothesis four

H_0: there is no relationship between price and competitiveness.
H_a: there is a relationship between price and competitiveness

The results of correlations revealed significant positive correlation for price and competitiveness with r=0.419 at a significant level of 0.05 (2- tailed). This indicates that there is a strong correlation between these two variables. Thus, price has an influence on the competitiveness of the local products at a significance level of 95%.Therefore, the null hypothesis (H_0) was rejected.

DISCUSSION OF THE FINDINGS

The arguments of this research was focused on the need for local manufacturing firms in Zambia to adopt the use of standards, due to their benefit derived from them in terms of reduced cost of production, increased competitiveness, improved quality, operational effectiveness, health and safety. Based on the problem statement cited, it is shown that there is need for these firms to adopt these standards as a means of gaining competitive advantage. Thus, the research was carried out to find out to what level standards have been adopted and used and also how they have affected business.

Adherence to the standards and quality policy by ZABS or any certification body was fairly high especially among the firms that have been in operation for number of years (5years and above). Further, it was found that most of the firms that adhere mostly to standards are from the Food and Beverages sub-sector of the industry. This is also reflected in 2008-2009 Gross Domestic Product (GDP) contribution by industrial sub-sector in which the sector has been contributing fairly well on top of other sectors. And there has been an increase with increase in the number of product certification and conformance to standards.

Upon testing the hypothesis, it was revealed that there was a significant relationship between price and competitiveness and competitiveness and quality. This simply means that the competition in the Zambian market is greatly influenced by these two factors. This was also the case when the significance of factors on competitiveness was analysed showed the same results. Standards with quality and price also revealed significant relationships which lead to the null hypothesis being rejected. This relationship however, was mainly as a result of those firms that have been in operation for over 5 years and mainly from the Food and Beverage sectors as already indicated above.

CONCLUSION

The objective of this research was to assess the role of standards in enhancing competitiveness of local manufacturing companies in Zambia. Literature revealed that competition was influenced by quality (differentiation) and price (cost leadership) as postulated by Porter. This was supported by the hypothesis testing. The literature also revealed that among the benefits of standards is improved quality and reduced cost. Therefore, it can be concluded that standards play a very important role in competition through increasing product quality and reducing cost. Through the findings of the research, it is hereby recommended that the following should be taken into account:

- ZABS should increase the awareness of standards for the local firms to educate them on the importance of standards and also align local standards to international standards such as ISO. In the same vain they should also involve the local firms in standards development process so that they have full understanding of how to use these standards.
- It is important that firms should have proper quality control systems in place and train their personnel very well. Advertising and channel of distribution was also observed to be a vital factor. Thus, firms should increase on their advertisement and marketing strategy not forgetting research and development and enhance their channel of distribution.

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