GLOBAL JOURNAL OF COMMERCE & MANAGEMENT PERSPECTIVE
(Published By: Global Institute for Research & Education)
www.gifre.org

The Role of Product Characteristics on Sellers' Trade Practices

Sebhatleab Tewolde[1], Kimberlee D. Snyder[2], Mussie T. Tessema[3], Samuel Tsegai[4] & Semere Simon[5]

[1]Associate professor of Finance & Accounting, Accounting department, University of Asmara, Asmara
[2]Professor of Operations Management, Business Administration Dept., Winona State University, MN
[3]Associate professor of HR Management, Business Administration Dept., Winona State University, MN
[4]Assistant professor of Mathematics Education, Math & Statistics Dept., Winona State University, MN
[5]MSc student in Beijing University

Abstract

This study focuses on the effects of product characteristics, specifically, seasonality, age and shelf life on sellers' trade approaches. It discusses what trade approaches the seller firms use (cash, credit, and/or both) and the sales trend or seasonality, age and shelf life of their main products. As a result of the research, the role of product characteristics on sellers' trade approaches has been verified to a certain extent. The research has revealed that, seasonality and age of product matter in deciding sellers' trading practices. The findings show that, products with seasonal sales trend and relatively younger in the market are traded more on both credit and cash compared to those that are relatively not seasonal and older. The paper offers insights to executives of companies to govern with due consideration to the role that these product characterisitcs play on seller trade practice. Implications of these findings and future research directions are discussed.

***Keywords**: Trade, cash, credit, product characteristics, seller, Eritrea.*

Introduction

When trading, firms need to continuously finance their investments. The generation of financing power, through trade credit, by building up supplier trust may relatively be easier compared to retaining profits or taking loan from financial organizations. Trade credit helps to create value to investors on trade credit by increasing revenues though potentially exposes business firms to risk of liquidity because it may decrease cash inflows by postponing cash collection to the future (NG et al., 1999). Smaller (in terms of capital base and sales) buyer firms get problems of external financing both in the short and in the long-term, which could be solved by trading on credit terms (Coleman, 2003).

Basically, there are three ways through which business firms can trade their goods and services: on credit, on cash or both - the proportion of which differs depending on buyer creditability and seller liquidity (Tewolde & Tessema, 2014). Trade credit has potential benefit for the seller (Lusztig, Cleary, & Schwab, 2001). The seller can use trade credit to stimulate demand and therefore increase sales, discriminate customers on the basis of price, establish reputation, reduce cost of inventory etc. (Miksomovic & Zechner, 1988; Pike et al., 2005). We expect that the use of trade credit may depend upon characteristics of the product, such as *seasonality, age and shelf life*. Some studies have been conducted to assess the determinants of trade credit. For example, it has been pointed out that, in the USA, UK and Australia, the determining factors are information on customer, marketing or sales approach, industry practice, terms offered by competitors and margin on products (Pike et al., 2005). In Belgium, the determining factor is liquidity (Marc, 1996). According to McMilan and Woodruff (1999), the use of trade credit in Vietnam depends on alternative source of finance, availability of information and membership in business or social networks. In Kenya, firm size, firms being formal, demand, debt position, promotional activities and educational level of staff influence trade credit practices (Isaksson, 2002). In Zimbabwe, trading approach in favor of credit is influenced by firm size and informal relations in networks (Fafchamps, 1997).

Yet, previous research has given little attention to the effect of product characteristics such as products *seasonality, age, and shelf life* on business firms' trade practice. So far as the researchers' knowledge is concerned, there has been no research made with an objective to find out the influence of product characteristics on business firms trade practice in Eritrea. This study, therefore, inquires if these product characterisitcs influence seller trade approaches.

Literature Review

When dealing on trading practices, the first logical question is "what influences traders to apply certain method of business practice"? Whether a firm is to trade only on credit, only on cash or both credit and cash depends upon certain characteristics including: product characteristics, firm characteristics and environmental characteristics. This study focuses ~~is~~ on the role of product characterisitcs (seasonality, age and shelf life) on seller trade practice. Mariassunta (2005) and Burkart, et al (2005) classify goods into three categories; services, standardized goods, and differentiated goods. Mariassunta (2005) argued that the most important product characteristic for explaining trade credit contracts is the ease with which the input can be diverted and finds that service suppliers offer as much trade credit as suppliers of differentiated goods and significantly more than suppliers of standardized–goods. Furthermore,–Burkart, et al (2005) argues that, compared to the other two, services may be traded more on credit because they have no collateral value and are almost impossible to divert. Similarly, differentiated goods may be traded on credit because they are more often tailored to the needs of particular customers and are more difficult to divert. However, standardized goods may not be traded on credit because they can easily be sold or diverted.

The behavior of trade practice can also be explained from the products supply and demand dimension (Petersen & Rajan, 1997; Schwartz, 1974). From the *supply side*, in periods of limited access to bank loan, trade credit may become

its substitute. So, bank credit constrained firms are more likely to resort to trade credit than otherwise. In support of this argument, Petersen & Rajan (1997) have found evidence suggesting that suppliers sell more on credit when credit from financial institutions are unavailable to buyers. They argue that suppliers sell more on credit when buyers are bank loan constrained because products' suppliers have a comparative advantage over banks in getting information about buyers. They can liquidate assets more efficiently, and have an implicit equity stake in the firms. From the *demand side*, Petersen & Rajan argue that seller firms with better access to bank loans and trade credit offer more trade credit to their customers. Schwartz (1974) also contends that, suppliers may be willing to provide trade credit to their customers if they have better information than banks about their customers' business and level of credit risk. Suppliers may be more willing to offer trade credit to their customers because they have long-term interest in the survival of the business partner (Petersen & Rajan, 1997).

The behavior of trade practice can also be explained from the financing advantage theory and price discrimination theory. According to the *financing advantage theory*, trade credit suppliers have advantages over financial institutions, like banks, in offering credit (Petersen & Rajan, 1997, Schwartz, 1974, Burkart, et al., 2005). Some of those advantages are informational advantage, moral hazard, collateral liquidation and imperfect competition. Petersen and Rajan (1997) and Burkart, et al (2005) list the following three major sources for such advantages: *Informational advantage*, which refers to advantage in information acquisition, *moral hazard*, which refers to advantage in controlling the buyer, and *Collateral liquidation*, which also refers to advantage in salvaging value from existing or unsold assets by customers. By having closer relationship with their customers, suppliers are able to gain information about their customers in a cheaper way than banks. Moreover, suppliers can also use different sources of information than banks do and are often able to seize delivered goods when customers do not pay. As per the notion of collateral liquidation, supplier has an advantage in salvaging if able to get back the delivered good before the customer sells them because the supplier is in the business of trading those same goods. Another advantage is that a supplier can stop delivering goods to its customer in the future. Under moral hazard, if a customer has no alternative to get the goods, the supplier has the power to threaten the customer. In an imperfect competition, supplier's opportunity cost (forgone profits from denying a trade credit) is assumed to be less than those of the bank and therefore a seller can find it profitable to make additional sales on credit to customers.

According to the *price discrimination theory* of trade credit, offering trade credit to specific customers is equivalent to a reduction in input price of products with more elastic demand. Suppliers may have long-run incentive to help customers which are in financial trouble because they may have an interest in the survival of customers to profit from an increase in customers' future demand (Petersen & Rajan, 1997).

Research Methodology and Measures Applied in Collecting and Describing Data

For this study, the authors have used three research phases (Bouma & Atkinson, 1995). The first phase clarified the issues of the research and selected a research method. Here, the concepts considered relevant to the study have been identified, defined conceptually and data retrieval methods were designed and used in the research. A cross-sectional survey research method was chosen as a preferred method for the research using exploratory and descriptive study approaches. The survey generalizes the trade practice used by all business firms in Eritrea from a sample of 100 firms at Zoba Maekel. The survey approach was chosen as the preferred method for data collection due to its advantage over economy, speed of data collection and identifying attributes of a population from a small group of individuals (Creswell, 1994). The first measure took during the data retrieval process was the execution of a pilot study on 10 respondents (firms' managers). This was done to test if the questionnaire would enable the authors to gather the desired data, and for readability of the survey. The pilot study questionnaire contained more general questions that enabled us to get a general understanding of trade practice and specific knowledge on the effect of seasonality, age and shelf life, on sellers' trade approaches. The outcomes of the pilot study provided input for revision of the survey instrument, and in particular for properly specifying the variables that may affect trade approaches in the market. After conducting the pre-test or pilot study and making all necessary adjustments, questionnaires were distributed by data collectors to 200 firms of which 100 were sellers and the remaining were buyers. In this piece we concentrate only on the sellers' side. In administering the questionnaire, data collectors were properly selected in that they all had at least associate degree in accounting with a very good grade in working capital management. They were given orientation on the objectives and data collection approaches and given official letters introducing the researcher and the data collector. They contacted each respondent personally or by telephone. During the interview with the firm, each data collector explained the objective of the study and how the respondent can fill in and then submit the questionnaire. This step took–around 30 minutes. At least one reminder call was made by the data collector a day before the date of the appointed interview. When collecting the questionnaire about 15 minutes was taken to explain questions that the manager may have had and another appointment was made for the conduct of interview. Upon completion, the questionnaire was inputted into a data summary sheet and notes of inconsistencies or unfilled questionnaires were noted. Each seller firm received a survey instrument containing detailed questions related to characteristics of the product, as well as questions about the seller involved. Most questions provide a number of alternative answers and end-up with "others" so that the managers could input their own reasoning to the question.

All respondents returned the questionnaires (100% response rate). The 200 firms (sample) were randomly selected from the 2,205 firms of the Central Zone (Zoba Maekel), provided by the Ministry of Industry and Trade (MoTI, 2010). The data was collected from both wholesale and retail sellers at Zoba Maekel (the Region around the Country's Capital - Asmara), where most of the business firms in Eritrea exist. The Central Zone is the most industrial region of the country.

On trade approaches, firms' managers were asked to give their opinions on their trade approaches. For example, managers were asked (a) what trade approaches they use (cash or credit or both) and (b) how they apply their approaches or (c) why they do not apply otherwise.

Table 1: Trade approaches

Trade options	Cash only	Credit only	Both	Both cash & credit		
				More on cash	More on credit	Equal
Alternative 1	Cash	X	X			
Alternative 2	X	Credit	X			
Alternative 3	X	X	Both			
3.1				More on cash	X	X
3.2.				X	More on credit	X
Overall	Cash sales	Credit sales	X	Cash sales	Credit sales	X

As indicated in table 1, the empirical data collection is divided into (a) sellers' opinion and (b) the effect of the sellers' opinion on their trade approaches ("cash only", "credit only" or a combination of the two- "both on credit and cash"). The "credit only" option was used by very insignificant number of respondent firms, therefore the authors reframed the description and analysis to include a comparison between "cash only" and "both cash and credit". If the majority of the respondents were in favor of the second choice, then the authors checked either "more of cash" or "more of credit". When managers believe that they sell only on cash or they sell both on cash and credit relying more on cash than on credit, the authors categorized it as sales on cash. When managers believe that they sell only on credit or they sell both on credit and cash but relied mostly on credit, data was categorized as sales on credit.

On the issue of product characteristics (seasonality, age and shelf life), managers were asked if the trend of sales of their main product is seasonal, how many years has it been since their main product was introduced into the market, and for how long (in weeks) can their product be stored and still be normally saleable.

For example on seasonality, the authors expect that the data will show that sellers whose products are seasonal or cyclical use trade credit in order to minimize costs of inventory and changing production capacity. Non-seasonal product firms will not have the urgency to enhance sales for seasonality purposes. In order to know the age of the product, the questionnaire asked the managers "how many years it has been since their main product was introduced into the market?" On this basis the products were divided into three categories – young aged products with less than 10 years of age, average aged products with age ranging between 11 and 20 years and old or matured products, the ages of which is above 20 years. It was anticipated that sellers of established products will not have any motive to enhance sales. However, for new products sellers sell on trade credit in order to introduce the product to the market and allow buyers time to check the quality of the product before they pay for it. Products' shelf life was divided into three categories – short shelf life - shelf life less than 1 month, average shelf life - between 1 month and 12 months and long shelf life - more than 12 Months. On the issue of shelf life, goods with shorter shelf life may easily be spoiled and become unmarketable. So sellers may prefer to trade on credit in order to increase sales and decrease cost of inventory.

Findings

Table 2: Sales practices

	Sales policy			If "both", proportion of cash and credit		
Product seasonality	Cash only	Credit only	Both cash & credit	More on cash	More on credit	Equal
Number and % of respondent firms	38(38%)	0 (0%)	62 (62)	46 (74%)	11(18%)	5 (8%)

With the objective of finding seller firms' sales practice, we collected data from 100 firms. As indicated in table 2, we found out that 62% of the firms sell "both on cash and credit", the rest sell only on "cash" and none of them sells only on "credit".

With the objective of finding seller firms' sales practice, data collected from 100 firms indicated in table 2, 62% of the firms sell "both on cash and credit", the rest sell only on "cash" and none of them sells only on "credit". Out of the 62 firms that sell both on cash and credit, 74% sell more on cash, 18% sell more on credit and only 8% sell equally on cash and credit. If one considers the firms which sell only on cash (38%) plus those which sell both on credit and cash but more on cash (46%) as cash sales, that means, 84% of the firms sell on cash. On the other hand, if one considers the firms which sell only on credit (0%) plus those which sell both on credit and cash but more on credit (11%) as credit sales, only 11% of the firms sell on credit (see table 3). The authors exclude from the computation those firms which sell equally both on credit and cash. The next question of this research was if the product characteristics such as seasonality, age and shelf life influence this trade practice.

Table 3: Seasonality and trade practices

Product seasonality	No. of firms	Sellers' trade approach						
		Cash only	Credit only	Both	more Cash	more Credit	overall Cash	overall Credit
Seasonal	45 (46%)	15 (33%)	0	30 (67%)	22 (49%)	5 (17%)	37 (82%)	5 (18%)
Non-seasonal	53 (54%)	21 (40%)	0	32 (60%)	24 (45%)	6 (11%)	45 (85%)	6 (11%)
Total	98 (100%)	36 (37%)	0	62 (63%)	46 (47%)	11 (18%)	82 (84%)	11 (11%)

As shown in table 3, on the basis of seasonality, 98 firms responded. While 46% of them said that the sales trend of their main product is seasonal, 54% said that it is not seasonal.

When seasonality is compared with the trade practice, out of the 45 firms whose product is seasonal, 82% sell on cash, which includes 33% on cash and 49% more on cash. Only 18% of the firms sell on credit. Out of the 53 firms whose product sales is not seasonal, 85% sell on cash, where 40% sell only on cash and 45% sell more on cash. Only 11% of the firms sell on credit. The effect of seasonality on trade practice indicate that products with seasonal sales are sold less on cash compared to those non-seasonal products.

Table 4: Age of product vs trade practices

Product age	No. of firms	Sellers' trade approach						
		Cash	**Credit**	**Both**	**more Cash** (74%)	**more Credit** (18%)	**overall Cash**	**overall Credit**
Young -Less than 10 Years	26 (38%)	7 (27%)	0	19 (73%)	14 (54%)	3 (12%)	21 (81%)	3 (12%)
Average - B/n 11Years and 20 Years	21 (31%)	9 (43%)	0	12 (57%)	9 (43%)	2 (10%)	18 (86%)	2 (10%)
Old/Matured - More than 20 Years	21 (31%)	11 (52%)	0	10 (48%)	7 (34%)	2 (10%)	18 (86%)	2 (10%)
Total	68 (100%)	27 (40%)	0	41 (60%)	30 (44%)	7 (10%)	57 (84%)	7 (10%)

As indicated in table 4, on the basis of age, 68 seller firms responded, of those responding 38% of the sellers said that it is less than 10 years since their main product was introduced into the market, 31% said between 11 and 20 years, and 31% more than 20 years.

When the age of the product is compared with the trade practice, out of the 26 firms with less than 10 years since the introduction of their product, 73% sell both on credit and cash and the rest sell only on cash. When age of the youngest products is compared with the trade practice, out of the 26 firms that fell into this category, 81% sell on cash, which includes 27% only on cash and 54% more on cash. Only 12% of the firms sell on credit. From the 21 firms whose product is average in age, 57% sell both on credit and cash and the rest sell only on cash. When age of the average aged products is compared with the trade practice, 86% sell on cash, which includes 43% on cash and 43% more on cash. Only 10% of the firms sell on credit. From the 21 firms whose products are the oldest, 48% sell both on credit and cash and the rest on cash only. When age of the oldest products is compared with the trade practice, 86% sell on cash, which includes 52% only on cash and 34% more on cash. Only 10% of the 21 firms sell on credit. The effect of product age on seller trading practices shows that oldest products sell more on cash compared to younger products to the market.

Table 5: Shelf life of the Product vs trade practices

Product shelf life	No. of firms	Sellers' trade approach						
		Cash	**Credit**	**Both**	**more Cash**	**more Credit**	**overall Cash**	**overall Credit**
Least shelf life - Most perishable - Less than 1 month	10 (14%)	0	0	10 (100%)	7 (70%)	2 (20%)	7 (70%)	2 (20%)
Average shelf life from 1 to 12 months	15 (21%)	7 (46%)	0	8 (54%)	6 (40%)	1 (7%)	13 (87%)	1 (7%)
Long shelf life - shelf life more than 12 Months	48 (65%)	22 (46%)	0	26 (54%)	19 (39%)	5 (10%)	41 (85%)	5 (10%)
Total	73 (100%)	29 (40%)	0	44 (60%)	32 (44%)	8 (11%)	61 (84%)	8 (11%)

As indicated in table 5, 73 seller firms responded; 14% of them said that their main products' shelf life is less than 1 month, 21% said between 1 and 12 months, and 65% stated that product shelf life is more than 12 months.

When comparing to the trade practice, out of the ten (10) firms whose product has the shortest shelf life, 70% sell on cash and 20% of the firms sell on credit, with the remaining 10% selling equally both credit and cash. On the other hand from the 15 firms whose product has an average shelf life; 54% sell both on credit and cash and 46% sell only on cash. From the 48 firms with longest shelf life; 54% sell both on credit and cash and the 46% sell on cash only. Out of these 48 firms, 15 firms whose products have longest shelf life; 85% sell on cash, including 46% on cash only and 39% more on cash. Only 10% of the firms sell on credit. Therefore the effect of product shelf life on seller trading practices reveal that products having shortest shelf life sell more on credit compared to those with longer shelf life.

Discussion

The current study reveals that more than 80% of both seasonal and non-seasonal products are traded ~~on~~ in cash (Table 3). Comparatively, the non-seasonal products are sold more on cash and less on credit compared to the seasonal products. As we conceptually expected, seasonality is a possible influencing factor on the trading decisions for sellers.

When age of the products is compared with the trade practice, again more than 80% of the products (younger, average and older) are sold on cash. However, the average aged and older products are sold more on cash and less on credit compared to the youngest products. Authors speculated that sellers of established products will not be motivated to enhance sales using credit. However for new products, sellers may sell more on trade credit in order to introduce the product with the market and allow purchasers time to check the quality of the product before they pay for it.

Authors speculated that products with the lowest shelf life to be traded (sold) more on credit compared to those with longer shelf life. When taking product shelf life as a proxy to measure trading practices, the study shows the products with the lowest shelf life are traded (sold) relatively more on credit and less on cash compared to the products with average and longest shelf life.

Conclusion, Study Implications and Future Research Directions

This study empirically examined the role of product characteristics (seasonality, age and shelf life) on seller trade approaches in one developing country, Eritrea. Overall, the research findings suggest that product seasonality, age and shelf life are important components of trade practice. Data analysis generally revealed that in a developing economy context, regardless of the product characteristics, products are overwhelmingly traded on cash rather than on credit basis. Further research needs to be conducted to find the reason for this. Moreover, relatively seasonal products, younger products and products with shortest shelf life are traded (sold) less on cash and more on credit compared to their counter parts, that is, non-seasonal, older and products with longer shelf life.

A direction for the future is to research from a developing economy point of view focusing on why products regardless of their seasonality, age and shelf life characteristics are traded on cash than on credit. Further research also should focus on the effect of other product characteristics, such as services, standardized goods, and differentiated goods on sellers' reasons for choosing a trade approach. Such research would then have more theoretical and practical implications on the relation among trade approaches as well as suppliers characteristics.

While this study is an important step forward in understanding the trade approaches firms use in developing countries like Eritrea, it has some limitations. First, this study was conducted in only one developing country (Eritrea). In order to generalize and validate the findings of this study, a similar study be conducted in other developing countries. In spite of the limitations, this study addresses several gaps [literature] in trade approaches firms use in developing countries, like Eritrea. First, this study is the first of its kind in that specific country.

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