IOSR Journal of Business and Management (IOSR-JBM)
e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 19, Issue 12. Ver. II (December. 2017), PP 41-46
www.iosrjournals.org

Effect of Buyer-Supplier Relationship on Buyer Trading: Empirical Investigation

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Abstract: *This paper empirically examines the extent to which buyer firms' tradingapproaches, (on cash, on credit or both on cash and credit), are influenced by buyer supplier cooperation. The experience of buyer-supplier relationship, buyer membership in business association, supplier concentration, and buyers' opinion on the relevance of transaction cost are taken as a proxy to measure inter-firm cooperation that determine buyers' trade approaches. We compared two buyer trading approaches – buying on cash only –against – buying on both cash and credit. The findings of this study suggest that, the firms that buy relatively more on both cash and credit are those that have longer buyer-supplier relationship, have less number ofsuppliers (fewersuppliers) and those who believe that transaction cost is relevant. We have also found out that in a developing economic environment the most frequently used means of communication among buyers and suppliersarepersonal visits and telephones.*
Keywords*: Trade, cash, credit, buyer-supplier cooperation, developing countries, Eritrea.*

Date of Submission: 27-11-2017 Date of acceptance: 11-12-2017

I. Introduction

The purpose of this paperis to assess the trade practices used by firms in developing countries using Eritrea as a case. The study specifically focuses on the effects of cooperation between buying firms and their suppliers on the buyers' trade approaches. It examines what types of trade approaches (cash, credit, and/or both) buyer firms use and if these approaches are influenced by inter-firm cooperation. Extent of buyer-supplier cooperation is measured by membership in business association, availability of information to both buyers and suppliers to each other, supplier concentration and transaction cost. Previous researches have given little attention to trade credit determinants in the developing countries, like Eritrea. Particularly, there has been scarcity of research with a purpose to find the extent of buyer-supplier cooperation and its role on buyers' trade practices. We have used a cross-sectional survey research method withexploratory and descriptive approaches. Our survey generalizes the trade practice used by all business firms in Eritrea from a sample of 200 firms at the Central Zone and 100 at the remaining five Zones of the country.One of the major tools that help in the achievement of the main business objectives (profitability and liquidity) is a policy of trade credit. Trade credit helps to create value to investors by increasing revenues but 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).Considerable research has been conducted with regard to the determinants of trade approachfocusing on trade credit (e.g., Pike et al., 2005; Marotta, 2005; McMillan &Woodruf, 1999; Deloof&Jegers, 1996). Yet, these researches have given less attention to trade credit determinants in the developing countries. The extent to which trade credit is used and the factors that influence it are yet to be researched from a developing African countries perspective. So far as the researchers' knowledge is concerned, there has been no research made with a purpose to find the extent of buyer-supplier cooperation and its role on buyers trading practice in Eritrea. This study therefore answers two research questions using Eritrean firms as point of reference:what are the buyers' trade practices and does buyer-supplercooperation influence those approaches?

II. Literature Review

Buyer-supplier relationship has geared towards full cooperation for the benefit of both transacting parties. By selling goods and services on credit, that is, financing customers' short term investments; suppliers sacrifice some of their short term benefits for the sake of their long term success. This is so because successful customer means supplier's future business success too. One of the sources of buyer finances (others include bank loans and retained earnings) is therefore trade credit. It arises when a trusting supplier allows a customer to postpone payments for the goods bought (Scherr, 1989, Ng et al, 1999). Trade credit benefits both suppliers and

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buyers (Macaulay 1963; Peel, Wilson &Howorth, 1999; Haley 1997; McMilan& Woodruff, 1999; Williamson, 1985; Bias, 1997). As indicated by Tewolde, S., &Tessema T. M. (2014),the buyer uses trade credit for quality control and cash management. As a tool for quality control, the buyer gets time to investigate quality of goods before paying. In addition as a means of cash management, the buyer also increases its purchasing power without the need to pay cash immediately (Pike, Cheng, Cravens, &Laminmaki, 2005; NG, Coleman, 2003; Petersen &Rajan, 1994). Using trade credit, the seller stimulates demandfor its products andas a result increasing sales, discriminates customers on the basis of price, establishes reputation, reduces cost of inventory etc., (Miksomovic&Zechner, 1988; Kartz, 1984; Holmes, 1989; Pike et al., 2005).Trading on credit or cash depends onthe characteristics of the firm, its product and/or it's environmental (Tewolde, S., &Tessema T. M. (2014). A buyer firm characteristics are inhibited in the firm's own internal factors such as cooperation with its suppliers and relationship with banks), product(seasonality, age and shelf life of its product) and environmental (prevailing financial institutions and legal provisions).This study focuses on the effect of buyer-supplier cooperation on buyer trade approaches (cash, credit and/or both). Existence of business association, information, trust, supplier concentration and transaction cost are used as proxy to measure buyer-supplier cooperation.Suppliers can easily acquire information from customers, through information obtained as a result of being members of business association, frequent customer visits and regular orders (see Schwartz, 1974; Nielsen, 2002, Petersen and Rajan (1997). This reduces information asymmetry and increases trust. Availability of information can be symmetric or asymmetric. When it is symmetric, sellers and buyers use more trade credit, because sellers have information about the risk and may be willing to sell on credit to the less risky buyers. When it is asymmetric, sellers and buyers use less trade credit. In order to reduce information asymmetry, sellers may offer two part trade credit terms and wait and see the reaction, signaling the payment risk (NG, 1999 and Pike et al, 2005).Moreover, two part trade credit may also be offered to reward relationship by allowing discount to long loyal customers (Pike et al, 2005, McMillan, Woodruf, 1999, NG, 1999).

Unlike bank loans, tradecredit does not rely on formal collateral but on trust and reputation(Fafchamps1996).Reputation and trust can be evaluated using number of years of business relationship with most loyal customers and suppliers. When reputation and trust is well established, sellers and buyers use more trade credit. Buyers can establish their reputation by including themselves into business association so that the information distribution both speed and quality is enhanced. Established relationship creates trust among buyers and sellers and minimizes the moral hazard and both may trade on credit terms. When reputation and trust is notestablished,sellers and buyers may use less trade credit. With no prior knowledge of each other, trade partners prefer cash transactions until the trade repetition creates reputation and trust.Networking measured by the existence of communication (using efficient means of communication and frequency of communication) with network group can be used to study trade practices. Networking is relationship established between firms in their surrounding and can be a catalyst in decreasing information asymmetry in buyer-supplier relationships (Fatoki O. &Odeyemi A. (2010).

When efficient net working exists,sellers and buyers use more trade credit. Networking helps the distribution of information and reduces information asymmetry and increases trust. If buyers and sellers belong to a well organized network of business group and have accredited name of being creditworthy, they can buy and sell on credit (McMillan, Woodruf, 1999, NG et al, 1999). When net working does not exist, sellers and buyers may use less trade credit. If buyers and sellers do not belong to a well organized network of business group and have no accredited name of being creditworthy, they can only trade (buy and sell) on cash.Supplier concentration measured by the number of regular suppliers that a buyer has can be used to study trade practices. When supplier concentration exists, sellers and buyers may use more trade credit. Fewer customers means less information asymmetry, more trust and therefore both sellers and buyers will be willing to trade on credit (Mian and Smith, 1992). According to Mian and Smith, (1992), creditors are more likely to finance credit constrained firms when credit markets are concentrated because it is easier for creditors to internalize the customers' benefits, share in the future surplus and creditors can also use price discrimination easily when customer base is concentrated (Mian and Smith, 1992). When supplier concentration does not exist, buyers may use less trade credit. This is because inter-firm relations and trust are loose and multiple trade creditors decrease the availability of trade credit and increase the cost of trade (Petersen andRajan 1994). The extent of transaction cost can be measured using buyers' opinion on the consequence of changing loyal suppliers. That is, cost of losing an existing supplier and finding new. When there is high transaction cost sellers and buyers may use less trade credit. In order to protect themselves against potential opportunist partner, both buyers and sellers put internal and external managerial safeguards (Porter, 1985). This creates pre and post transaction costs, which increase with incomplete transaction such as trade credit, hence sellers and buyers use less of it. However, when there is low transaction cost - sellers and buyers - use more trade credit. Where there is no potential opportunist partner, partners in transaction do not need to put the internal and external managerial safeguards and transaction costs of trade credit decrease. This also influences sellers and buyers to trade on credit.

III. The Research Methodologyand Measures

Bouma and Atkinson (1995)propose an outline of three phases in the research process. The first phase requires a researcher to clarify the issues to be researched and select a research method. In this phase the researcher has to select, narrow and formulate the problem to be studied, select the research design, design and devise measures for variable, set-up tables for analysis and select a sample or the units of analysis. The second phase concerns the collection of data about the research question, summarizing and organizing the data. The third and final stage relates to the analysis and interpretation of data including relating data to the research question, drawing conclusions, assessing the limitations of the study and making suggestions for further research.We have used a cross-sectional survey research method withexploratory and descriptive study approaches. We have preferred this approach because of its advantage over economy, speed of data collection and in identifying attributes of a population from a small group of individuals (Creswell, 1994).Drawing on the literature review and guided by the research framework, first we identified the relevant concepts to the study and conceptually defined. The second step was the preparation of the questionnaire and execution of a pilot study on 10 respondents (firms' managers) in order to test if the questionnaire would enable us to gather the desired data, and the respondents understand the concepts. Finally, after making all necessary adjustments 200 questionnaires were distributed to the respondents of which 100 were sellers and 100 were buyers. In addition to the questionnaires, data was collected from the firms' five years (2004 to 2008)financial statements. All respondents returned the questionnaires. The 200 firms (sample) were randomly selected from the 2205 firms of the Central Zone(which is the most industrial region of the country), provided by the Ministry of Industry and Trade (MoTI, 2010).

Firms' managers were asked to give opinions on their approach to trade (cash or trade credit or both). Most questions provide a number of alternative answers and end-up with "others" so that respondents may add their own reasoning. We applied the following five procedures in administering the questionnaire. First, we selected data collectors with at least a diploma in accounting and good grade in working capital management. Second, data collectors were given orientation on the objectives of the research and data collection approaches. Third, they were provided with the official letters introducing the researcher and the data collector. Fourth, they approached each respondent personally, explained the objective of the study and handed over the official letters and then submitted the questionnaires. This may take around 30 minutes. When collecting the questionnaire, at least one reminder call or personal visitwas made by the data collector a day before the date of the appointment. About 15 minutes was taken to explain questions that the manager may have and appointment made for interview. Upon collection, the questionnaire is filled into data summary sheet and notes of inconsistencies or unfilled questionnaires taken to be clarified during interview.

Table 1: Measures of buyer-supplier relations and proxy of measurement

Measures	Proxy of measurement
Information	Experience of business relationship and membership in network
Reputation or Trust	Number of years of business relationship with most loyal suppliers
Net working	Communication with network group, membership in business association.
Supplier concentration	Number of regular suppliers
Transaction cost	Managers' opinion on the cost of losing existing and finding new supplier)

As indicated in table 1, in order to obtain and measure information we used the managers' opinion on the firms'– (a) trade practice, (if they trade on cash, credit or both), (b) buyer-supplier relationship (as measured by - experience of business relationship, membership in network, supplier concentration, established trust and transaction cost). Finally, we assessed if (a) is influenced by (b). We expected that buyers having longer business relationship with suppliers,are members of business association, concentrated supplier, established trust and lower transaction cost, trade more on credit than on cash. Inter business experience in the form of **buyer-**supplier relationshipsand supplier concentrationsare used to measure information symmetry and established trust. We measured buyer-supplier relationshipin terms of number of years that buyers and supplier have business relationship. For this purpose we divided the firms into three categories– those with buyer-supplier relationshipof less than 10 years, between 10 and 30 years and those with more than 30 years.We measured supplier concentration in terms of number of suppliers. With this objective in mind, the firms are divided into three categories – those with few suppliers (less than 10 suppliers), those with average number of suppliers (between 10 and 30 suppliers) and those with large number of suppliers (more than 30 suppliers).

IV. Findings

Table 2: Net working with other firms - existence of communication

		Trading on cash and /or credit		
Communication with other firms	**No of firms**	**Cash only**	**Credit only**	**Both**
Yes	72(72%)	21(29%)	1(1%)	50(70%)
No	28(28%)	13(46%)	1(4%)	14(50%)
total	**100**(100%)	34(34%)	2(2%)	64(64%)

As table 2 indicates, empirically, all 100 firms respondedon whether they have formal communication with their suppliers or not, out of which 72% said "yes" they communicate while the remaining 28% said "no" they do not communicate at all. From the 72 firms which said they do communicate 70% buy both on credit and cash, 29% buy onlyon cash and 1% buy only on credit. On the other hand out of the 28 firms which said "no" for communication,50% buy both on credit and cash, 46% buy on cash only and 4% buy only on credit.

Table 3: Means and frequency of communication

Means of communication						**Frequency of communication**			
Telephone	Letter	Personal visits	Business association	Other	number of respondents	When approached	Regularly	Other	Total Respondents
29 (34%)	4 (5%)	43 (51%)	3 (4%)	5 (6%)	84 (100%)	18 (23%)	42 (54%)	18 (23%)	78 (100%)

On **means of communication**, as table 3 reveals, from those who communicate,51% use personal visits,34% use telephone, 5% send letters, 4% have business association, and 6% use other methods to communicate.Regarding **frequency of communication**,78 firms responded out of which 54% communicate with their suppliers regularly, 23% only when approached and 23% said they use other mechanisms.

Table 4: Business experience - to measure information symmetry and reputation/trust

Buyer-supplier cooperation in years	**Number of respondents**	**Trading on cash/credit**		
		Cash only	**Credit only**	**Both**
Less than 10 years	61(80%)	24(40%)	1(2%)	36(59%)
Between 10 & 30 years	9(12%)	11(34%)	0	7(78%)
More than 30 years	6(8%)	6(8%)	0	6(100%)
Total	76(100%)	26(34%)	1(1%)	49(65%)

As table 4 shows, on **business experience**, 76 managers responded, out of which 80% hadless than 10 years of experience in buyer-supplier cooperation, 12% have between 10 and 30 years of experience and only 8% have more than 30 years of experience. Comparing inter-business experience with trade practice reveals that out of the 61 firms with less than 10 years of inter-business experience, 59% buy both on credit and cash while 40% buy only on cash. The remaining 2% buy on credit only. From the firms with relationship between 10 and 30 years, 78% buy both on credit and cash while 22% buy on cash only. All (100%) of the 6 firms with more than 30 years of inter-business experience buy both on credit and cash.

Table 5: Supplier concentration

		Trading on cash/credit		
Supplier Concentration	**Total respondents**	**Cash only**	**Credit only**	**Both**
Few Less than 10 Suppliers	61(80%)	24(39%)	1(2%)	36(59%)
Average (b/n 10 & 30)	9(12%)	2(22%)	0	7(78%)
Many (More than 30)	6(8%)	0	0	6(100%)
Total	76(100%)	26(34%)	1(1%)	49(65%)

On **supplier concentration**, (refer table 5 for more details), out of the 100 firms, 76 responded, and only 8% of which have more than 30regular suppliers, 12% have between 11 and 30 and 80% have less than 10 regular suppliers. From the 61 firms with less than 10 suppliers, 59% buy both on credit and cash, 39% buy only on cash and 2% buy on credit only. Out of the 9 firms which have between 10 and 30 suppliers,78% buy both on credit and cash while 22% buy on cash only. From the 6 firms which have more than 30 suppliersall (100%)buy both on credit and cash.

Table 6: Transaction cost

		Trading on cash/credit		
Transaction costis expensive	**Number of firms**	**Cash only**	**Credit only**	**BothCredit and Cash**
Yes	36(36%)	12(33%)	0	24(67%)
No	64(64%)	22(34%)	2(3%)	40(63%)
Total	100(100%)	34(34%)	2(2%)	64(64%)

On the influence of **transaction cost**on trade approach (see table 6), all 100 firms responded. Out of the 36 firms which said they do believe that the cost of changing loyal supplier is expensive, 67% said that they buy both on credit and cash and 33% buy on cash only. On the other hand from the 64 firms which believe that transaction cost is not expensive, 63% buy both on credit and cash, 34% buy only on cash and 3% buy on credit only.

V. Discussion

The objective of the study was to examine the extent to which firms' trade practice, (trade on cash, credit or both), is influenced by inter firm relationship such as firms' experience of business relationship, membership in association, supplier concentration, established trust and transaction cost. To that end, we performed a number of analysis (Tables 2-6). In this study, buyer firm characteristics are observed from the point of view of trade policy (credit, cash or a combination with certain proportion). In order to measure inter firm cooperation, we have used the experience of business relationship, membership in association, supplier concentration, and relevance of transaction cost. Our findings revealed that the "credit only" option is used by very insignificant number of firms. So, we reframed the description and analysis to include a comparison between the two choices, "cash only" on one hand and "both credit and cash" on the other. If majority of respondents (buyers in this case) are in favor of one choice, then we see whichgroup on the basis of "business experience, communication, Supplier concentration and transaction cost" is morein percentage.

The findings of this study suggest that, the vast majority of the findings were in line with previous studies (e.g., (NG, 1999), Pike, Cheng, Cravens, Laminmaki, (2005). As predicted, the study finds that firm's buying policy is influenced by inter firm cooperation.On inter business experience; the firms having longer inter-business cooperationtrade more on both credit and cash compared to those having less experience on cooperation. So, our findings support our expectations on this issue. We expected that buyers with established relationship and trust have higher possibility to buy on credit than those with less inter business experience and trust of others.We have also found out that the most frequent means of communication ispersonal visits and then sending letters. Though, most of the firms said their communication is regular, very few of them have business association. When trading practice is compared with the existence of networking (measured by membership in association), the firms who responded "yes" that they are members in a business association buy more on both credit and cash compared to those who said "no" they do not belong to any business association. We expected that the firms having network or association use more credit compared to those which do not have and our finding agrees with this conceptual expectation.

Regarding supplier concentration, the firms with highest supplier concentration, (more than 30 suppliers) buy more on both credit and cash, compared to those with less number of suppliers. We expected that the firms to use more trade credit. The study on transaction cost indicates that, the firms who believe that the transaction cost is high buy more on both credit and cash, compared to those who said transaction cost is not expensive. So, our findings on supplier concentration and transaction cost do not agree with our conceptual expectations. We expected that the firms with fewer suppliers and those who believe that the transaction cost is expensive to use less of trade credit and practical observation is the opposite.

VI. Conclusion, Study Implications and Future Research Directions:

Firms can learn trade approaches from other firms, locally, nationally, regionally or even internationally. However, it is highly influenced by cultural, political and economic environment too. From developing countries point of view, little is empirically known about the trade approaches firms use, how they apply their approaches and why they opt for those approaches. Much less is also known if these trading approaches are influenced by inter firm cooperation (as measured by association, information, trust, supplier concentration and transaction cost)in these developing countries. The contribution of this paper is that, itfills this gap by empirically examining the trade approaches firms use in one developing African country, Eritrea.The research shows thatexperience of business relationship and membership in network is weak and therefore information is symmetricwith the business firms in Eritrea. To reduce information asymmetry, sellers may have to offer two part trade credit terms with effective annual rate of interest well above their buyers marginal cost of capital and wait and see the reaction, signaling the payment risk.The government through the Ministry of Trade and Industry can make a good contribution by helping the business organizations to form inter firm and intra industry associations and prepare the ground for better business cooperation, competition and efficiency. Governments can help the business firms to get oriented and updated on the modern approaches of business management in general and trade practice in particular. They can do this by helping to establish business associations, so that they become better competitors locally, regionally and globally.

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 African country (Eritrea) and that restricts the generalization of the findings to other developing countries. Thus, in order to generalize and validate the findings of this study, we suggest that a similar study be conducted in other developing countries. That is, additional research is needed to examine the robustness of the findings and generalizations. In spite of the above limitations, however, this study addresses several gaps [literature] in trade approaches firms use in developing countries, like Eritrea. First, this study is the first in its kind in the country. Second, this study has examined the extent to which different types of inter-firms relationships affect the trade approaches firms use in Eritrea, which to our knowledge has not been studied. And thus, it can be seen as an important addition to the literature on the trade approaches firms use in developing countries.

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IOSR Journal of Business and Management (IOSR-JBM) is UGC approved Journal with Sl. No. 4481, Journal no. 46879.

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