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CONTENTS

EXPORT MARKET ORIENTATION, INTERFIRM COMMUNICATION, INTERFIRM COOPERATION AND EXPORT PERFORMANCE

Olimpia C. Racela, Mahasarakham University, Thailand
Amonrat Thoumrungroje, Assumption University, Thailand

ABSTRACT

The purpose of this study is to assess the role of export market orientation on interfirm communication and interfirm cooperation, and ultimately, on export performance. Drawing upon the resource-based view, cognitive structures in social psychology, and relationship marketing theory, a conceptual model is developed and relationships between the key constructs are tested empirically from a diverse sample of 242 exporting firms in Thailand. Structural equation modeling was used to analyze the data. The findings indicate that highly export market-oriented firms engage in higher levels of communication frequency and communication quality. However, while communication quality is related to cooperation, communication frequency is not. These results have significant theoretical implications for academics of international business and marketing, as well as practical implications for exporters.

JEL: L1, M1, M3

KEYWORDS: Export Market Orientation, Exporters, Communication Frequency, Communication Quality, Interfirm Cooperation, Emerging Market

INTRODUCTION

Exporting is a key activity in most economies, particularly in emerging markets. Many academics and practitioners have encouraged exporting firms to become more market oriented so as to develop the necessary organizational capabilities that can lead to better knowledge of export markets. In addition, with the emergence of the relationship marketing paradigm, relational behaviors of the exporter-importer dyad have been given a significant amount of academic attention in the past decade (e.g. Lages, Lages and Lages, 2005; Lages, Silva and Styles, 2009; Nguyen and Nguyen, 2010; Racela, Chaikittisilpa and Thoumrungroje, 2007). However, although valuable insights have been gained from such prior studies, there has been very limited attention given to relationship determinants, such as those relevant to interfirm communication.

Communication has long been recognized as a relational driver in seller-buyer relationships (Griffith, 2002; Palmatier, 2008). Yet, much of the relationship marketing research literature has downgraded the role of communication to a minor component of relational behaviors. There is prior research to suggest that interfirm communication serves as a primary driver to sustaining business relationships, with empirical support found from studies conducted in manufacturer-retailer contexts (e.g. Holden and O'Toole, 2004), industrial marketing settings (e.g. Denize and Young, 2007) and business partnerships (e.g. Gray, 2005). Consideration of interfirm communication in export market ventures has only recently been posited in the international marketing literature (e.g. Oh and Moon, 2010). Thus, a deeper understanding of the communication—relationship behavior link in an exporter-importer context would be worthwhile, especially since engaging in such behaviors may involve considerable organizational resources.

This paper aims to fill this void in the marketing literature by examining the role of interfirm communication and relational behaviors in the export market orientation—export performance relationship. Although the export marketing literature has identified numerous relationship constructs (e.g. Leonidou and Kaleka,

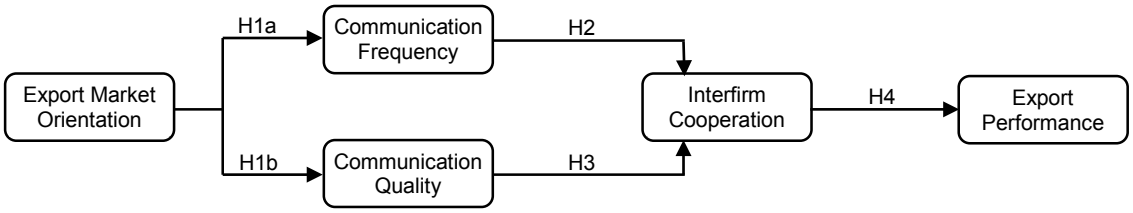
1998; Sutton-Brady, 2001), we specifically focus on examining the role of communication quality, communication frequency and the relational aspect of interfirm cooperation. Our selection of these behaviors is based on their noted significance in the existing literature, and the sparse attention they have been given in the exporter-importer business relationship. The context of this study is Thailand, an emerging market which is highly export-dependent. The country's exports account for roughly two-thirds of the nation's GDP. As a result of the global economic slowdown that began around mid-2012, Thailand's export growth from January-August 2013 reached a mere one percent, well below the target of 7.0-7.5 percent (Sriring and Thaicharoen, 2013). Given the importance of the export sector to Thailand's growth and the challenges Thai exporters face under a dynamic and fast changing global environment, this study is not only timely, but also provides valuable insights into firm resources and behaviors that influence the export performance of Thai firms. Thus, our study contributes to the international marketing literature in two major ways. First, it delineates the concept of communication from that of relationship, in line with a more detailed perspective of the two distinct sets of behaviors. Second, our study empirically examines the effects of communication and relational behaviors, which have received little attention in the export market orientation literature.

In the next section, we present a review of the relevant literature as well as the theoretical foundations applied for the development of the conceptual model and the corresponding hypotheses. These are followed by the research methodology and empirical analyses. Finally, the implications, limitations and directions for future research are discussed.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The development of the conceptual model shown in Figure 1 takes an interdisciplinary approach, integrating several different theoretical perspectives, namely the resource-based view (RBV) of the firm, cognitive structures from social psychology, and relationship marketing theory. The model conceptualizes exporter market orientation as an antecedent of communication frequency and communication quality, which then lead to interfirm cooperation that in turn affects export performance.

Figure 1: Conceptual Model



This figure shows the conceptual model, key concepts, and hypothesized relationships that are of interest in this study. The model is developed from an integration of three theoretical perspectives, namely the resource-based view of the firm, individual cognitive structures, and relationship marketing theory.

Export Market Orientation

Export market orientation refers to the activities that firms perform in their efforts to incorporate the marketing concept into their export operations (Cadogan, Kuivalainen and Sundqvist, 2009). Behaviors that are associated with an export market orientation include export-focused intelligence generation, intelligence dissemination, and responsiveness to export market intelligence, which influences the firm's ability to develop and offer superior value for its export customers (Cadogan, Diamantopoulos and Siguaw, 2002). Much of the strategy and marketing literature recognizes market orientation as an essential marketing capability or strategic marketing resource that has the potential to enable a firm to gain a positional advantage and to achieve superior firm performance (e.g. Hult and Ketchen, 2001). According to the

resource-based view (RBV) of firms, resources that are valuable, rare, imperfectly imitable, and non-substitutable can enable the firm to better perform strategic actions that create a competitive advantage that ultimately enhances firm performance (Wernerfelt, 1984; Barney, 1991). When an organization adopts and implements a market orientation, albeit an export market orientation, it has embraced an information processing perspective, thereby making a market orientation an indigenous key market-based asset in the form of unique customer and competitor market intelligence that allows the firm to achieve superior performance (Morgan, Vorhies and Mason, 2009).

A review of prior research on the export market orientation—export performance link reveals that the relationship is generally a positive one. More recent studies of export market orientation have focused on examining specific organizational processes through which it influences performance. For instance, Murray, Gao and Kotabe (2011) found that marketing capabilities (i.e. pricing capability, new product development capability, and marketing communication capability) mediate the export market orientation-performance relationship while competitive advantages (i.e. low-cost advantage, differentiation advantage) partially mediate it. Similar studies have been conducted to examine the mediating role of relational behaviors (i.e. relationship distance, cooperation, dependence) (Racela et al., 2007), and relationship quality (e.g. Lages et al., 2009; Nguyen and Nguyen, 2010). This paper follows this line of inquiry and considers the exporter's market orientation as an antecedent of other organizational behaviors rather than as a direct determinant of export performance.

Interfirm Communication

Communication is a fundamental human activity essential to create, maintain and foster relationships between and among different parties. Communication in organizations have been identified by several key characteristics such as vertical, horizontal or diagonal (Simpson, 1959); degree of formality (e.g. Anderson and Narus, 1990); satisfaction with communication (Roberts and O'Reilly, 1974); communication quality and quantity (Wiio, 1988); and verbal and nonverbal communication (Graham, 1985). Communication between two firms can involve different types of interactions (e.g. face-to-face, email) between different groups and individuals of each firm. Interfirm communication, therefore, can be defined broadly as the amount, frequency, and quality of information shared between exchange partners (Mohr and Sohi, 1996). Successful interfirm exchanges are highly contingent upon good and frequent communication (Bleeke and Ernst, 1993). Generally, communication as a concept is often described as a multidimensional global construct. However, much of the prior research examines only the dimension of communication frequency. Although this dimension has been defined in several ways, in this paper, interfirm communication frequency refers to the number of contacts made between members of the different parties (Mohr and Nevin, 1990).

'Good' communication corresponds mainly with the concept of communication quality. Many studies in relationship marketing have identified communication quality as a dimension of a relationship construct. For instance, in the context of supplier-buyer relationships, Roehrich, Spencer and Florence (2002) find the emergence of a 'communication quality' dimension as part of their exploratory study of the relationship atmosphere construct.

Inadequate communication with exporters has long been identified as a major problem facing importers (Katsikeas and Dalgic, 1995). Views of cognitive structures from the field of social psychology may be useful to explain the communication interaction between an exporter and its overseas distributors. Cognitive structures describe the basic mental processes people use to make sense of information and give meaning to it. When people with different cognitive structures engage in interpersonal communication, their differences in knowledge and of meanings often necessitate greater communication effort in order to ensure sufficient encoding and decoding of transmitted messages. In a study of manufacturer-retailer relationships, Hakkio and Laaksonen (1996) found that differences in the product meanings between manufacturers and

those of their retail customers facilitated more meaningful and frequent communication for the purpose of clarifying and reconciling product meanings into a shared and common understanding.
In an exporter-importer relationship where cognitive knowledge structures may differ, greater communication quality and more frequent communication interactions could be more prevalent. Firms with a strong export market orientation would engage in a form of organizational information gathering and processing that enhances information quality and information utilization. This information processing enables the exporters to familiarize themselves with the general cultural peculiarities and specific social exchange norms of their importers. Highly export market-oriented firms are not likely to keep their key importers at arms-length, but rather, would engage in more relevant and frequent communications and interactions with them in order for both parties to gain a common understanding of their foreign market in which the importer is more knowledgeable and the exporter is less familiar with. Therefore, the following relationships are hypothesized:

H1a: Export market oriented firms will have a higher degree of communication frequency with their overseas distributor.
H1b: Export market oriented firms will have a higher degree of communication quality with their overseas distributor.

Communication Frequency, Communication Quality and Interfirm Cooperation

Cooperation can be broadly described as the process of several parties working together towards the same goal. Definitions of cooperation found in the marketing literature are consistent with this broad description (e.g. Morgan and Hunt, 1994; Leonidou, Katsikeas, and Hadjimarcou, 2002). The underlying themes of these definitions of interfirm cooperation are that it is a process by which individuals, groups and organizations come together, interact and that it forms psychological relationships for mutual gains or benefits (Smith, Carroll and Ashford, 1995). Cooperation is often included in marketing studies as a component or an item of a higher-order relationship construct, such as relationship quality (Lages et al., 2005; Lages et al., 2009) or relationship atmosphere (Roehrich et al., 2002), implying that cooperation is distinct from other relationship marketing constructs such as power, conflict, coordination, trust, and commitment.

Communication between two firms is a necessary element of relationship-building. Based on the relationship marketing paradigm (Morgan and Hunt, 1994), communication helps to build trust between firms and provides the information and knowledge that is required in order for cooperative activities to commence. In exporter-importer relationships, cooperation is shaped by particular norms of behavior, which may differ between the two parties, particularly when cultural or psychic distance is large. Such differences present major challenges in exporter-importer relationships to achieving a productive level of cooperation. However, in a study of international trade intermediaries, it was found that frequent, bi-directional and informal communication between firms improves cooperation (Balabanis, 1998). Building on these aforementioned arguments, the following hypotheses are advanced:

H2: Exporter-importer communication frequency has can positively influence interfirm cooperation.

H3: Exporter-importer communication quality has can positively influence interfirm cooperation.

Interfirm Cooperation and Export Performance

Interfirm cooperation reflects expectations that the parties have about working together in order to jointly achieve both mutual and individual goals. Firms may be motivated to cooperate with their business customers or strategic partners in order to gain certain benefits such as stretching their resources, enhancing

their knowledge, reducing their costs and improving their performances in general. Based on the RBV line of thoughts, a firm that is resource-constrained may engage in interfirm cooperation to overcome related barriers to the firm's growth (e.g. Zhang et al., 2010). In an exporter-importer context, an exporter may be resource-constrained in terms of market and/or financial resources, while an overseas distributor may lack its own manufacturing resources. In essence, the exporter and its overseas distributor share its resources, with the exporter sharing its inventory and the importer sharing its market knowledge and/or financial resources. Accordingly, the RBV advocates interfirm cooperation as a means for firms to grow with the aid of a partner firm's resources (Combs and Ketchen, 1999).

In terms of the influence of interfirm cooperation on firm performance, much of the empirical evidence supports a positive influence, with a few exceptions of studies that find mixed results. For instance, Horta, Brito and Brito (2009) find that a firm's cooperation with its customers positively influenced firm growth (i.e. market share), but did not have any influence on its profitability. However, in the international marketing literature, the view that exporter-importer cooperation would have a positive impact on the exporter's firm performance has been supported by several prior studies (e.g. Jungbok, 2011, Racela et al., 2007). As a result, our last hypothesis can be postulated as:

H4: Interfirm cooperation has a positive relationship with export performance.

RESEARCH METHODOLOGY

Data were collected over a four-week period during the months of June and July. The Thailand Exporter Directory, which lists over 4,000 firms, was used as the sampling frame for this study. A random sample of 500 firms were contacted by telephone to (1) confirm the firms' existences, (2) verify the firms' export activities, (3) to identify appropriate key informants, and (4) to secure the firm's participation in the study. Firms contacted that were out of business, no longer exporting, or declined to participate in our study were omitted from our list for further contact. Several initial contacts revealed that export activities of different products were managed by separate business units of the firm, thus, our unit of analysis is the strategic business unit (SBU). Our questionnaires were sent to identified informants of the randomly selected 445 export firms, most of which were situated in the greater Bangkok metropolitan area. To enhance the quality of the responses provided by key informants and to minimize common method variance, respondents were ensured of anonymity and confidentiality in the analysis and in the reporting of the results (Podsakoff et al., 2003). From the initial mailing, 253 questionnaires were returned. This yielded a response rate of 56.8 percent. Six questionnaires had excessive missing values and were dropped from further analyses. Our final sample is 247 SBUs within 174 companies, representing over 10 industries. A comparison between 'first-two weeks' and 'after-two weeks' responses on several firm characteristics (e.g. firm size, firm performance, etc.) indicated that nonresponse bias was not a concern in this study (Armstrong and Overton, 1977). Table 1 presents the sample characteristics.

Questionnaire Development and Construct Operationalization

A back translation procedure was employed to translate the original English language scales to Thai in order to ensure conceptual and functional equivalences (Cavusgil and Das, 1997). The question sequence and item wording in the questionnaire were refined by a pretest of 10 managers and marketing experts.

Existing measures were sought and adapted for this study. All multi-item constructs were measured using a 7-point scale. *Export Market Orientation* (EXPORTMO) was measured from the 32-item MARKOR scale of Kohli, Jaworski and Kumar (1993), with the items being adapted to suit the context of an export firm. The EXPORTMO scale was used as a second-order construct, with three first-order factors: *Export intelligence generation* (EXPINTGEN), *Export Intelligence Dissemination* (EXPINTDISS), and *Export Responsiveness* (EXPRESP). EXPINTGEN comprises 10 items to assess the extent to which the exporter

undertakes activities to create export market intelligence about customers, competitors, the industry, and environmental changes. EXPINTDISS consists of 8 items that indicate the extent to which the exporter shares its export market intelligence among export staff and throughout other functional departments. EXPRESP has 14 items that represent the exporter's ability to design and implement actions based on the acquired export market intelligence.

Table 1: Sample Characteristics

Characteristic	Proportion (no.) n=247
Functional Area of Respondent	
Top-management (e.g. Owner, SBU head, GM, MD, V.P.)	47.8% (118)
Export	23.1% (57)
Marketing	14.2% (35)
Sales	9.7% (24)
Logistics	1.6% (4)
International	1.6% (4)
Other (e.g. IT, Accounting, Product design)	2.0% (5)
No. of full time employees	
1 to 60	38.1% (94)
61 to 120	18.6% (46)
More than 120	43.3% (107)
Years SBU has been established	
1 to 6 years	9.7% (24)
7 to 12 years	13.8% (34)
13 to 18 years	25.9% (64)
19 to 24 years	14.6% (36)
25 to 32 years	22.2% (55)
Over 32 years	13.8% (34)
Industry	
Garments, Textiles, and Clothing	44.1% (109)
Automotive Parts/Accessories	15.0% (37)
Electronics, Electrical Products and Parts	13.8% (34)
Construction/Industrial//Machinery & Equipment Products	7.7% (19)
Chemicals/Medical Supplies/Hygiene Products	5.7% (14)
Household/Consumer Products	5.7% (14)
Agriculture/Food Products	4.4% (11)
All others (i.e. Gems/jewelry, Gifts/Handicrafts)	3.6% (9)

This table presents a summary of the characteristics of the key informants and their corresponding firms. From a random selection of 445 export firms listed in the Thailand Exporter Directory, 247 usable questionnaires were returned.

For the exporter's interfirm interactions, the respondent was instructed to refer to a key overseas distributor (i.e. importer) of the firm. *Communication Frequency* (COMMFREQ) was measured by a single-item ratio scale in terms of the average number of personal contacts the exporter makes with the importer within a year. *Communication Quality* (COMMQUAL) was measured using the 5-item scale of Roehrich et al. (2002), which indicates the degree to which communications with the importer are amiable and clear. *Interfirm Cooperation* (INTERCOOP) was measured by the 6-item cooperation scale developed by Roehrich and Spencer (2003), which indicates the extent to which the exporter works closely, shares technical and commercial information and has compatible goals with the importer.

Export Performance (EXPPERF) was measured using 4-items to assess the exporter's performance in terms of export sales, export market share, export profits, and rate of new market entry in relation to the exporter's major competitors.

DATA ANALYSIS AND RESULTS

An initial check of the data revealed five outliers, which led to the omission of those responses from the analysis. The presence of common method bias was checked by conducting a Harman's single-factor test (Podsakoff et al., 2003). All indicators of the four multi-item constructs were subjected to an exploratory

factor analysis, which resulted in no single factor emerging and no one factor accounting for a majority of the total variance of these four variables.

From confirmatory factor analysis (CFA), items with factor loadings below 0.50, mostly items that were reverse-worded, were dropped from further analysis. This is not surprising, as reverse-worded items have been found to be particularly problematic for Asians because of their unfamiliarity with such types of statements as well as their inherited cultures (Wong, Rindfleisch and Burroughs, 2003). Four items were used to measure EXPINTGEN. Four items were used to assess EXPINTDISS. Five items were used to measure EXPRESP. Each of these three refined components shows acceptable internal consistency: EXPINTGEN (α = .71), EXPINTDISS (α = .81), and EXPRESP (α = .78). The measures of each component were summated and used as indicators for the EXPORTMO latent construct. In aggregate, the EXPORTMO construct has adequate internal consistency (α = .62). Of the six items used to measure INTERCOOP, two were dropped.

The CFA measurement model including EXPORTMO, COMMQUAL, COMMFREQ, INTERCOOP and EXPPERF was estimated using AMOS v.17 based on the equations 1 and 2. EXPORTMO is and exogenous variable (ξ_1) measured by three indicators (x_1, x_2, and x_3) where COMMFREQ (η_1), COMMQUAL (η_2), INTERCOOP (η_3), and EXPPERF (η_4) are endogenous variables, which were measured by the respective manifest indicators (y_1 to y_{14}). Equation 1 shows the measurement model of the exogenous variable and Equation 2 illustrates the measurement model of the remaining four endogenous variables in our study. The corresponding matrices of the two measurement models are presented below each of the equations.

$$X_{(3\times1)} = \Lambda_{(3\times1)}\xi_{(1\times1)} + \delta_{(3\times1)} \quad (1)$$

$$\begin{bmatrix} x_1 \\ x_2 \\ x_3 \end{bmatrix} = \begin{bmatrix} \lambda_{x_{11}} \\ \lambda_{x_{21}} \\ \lambda_{x_{31}} \end{bmatrix} \times [\xi_1] + \begin{bmatrix} \delta_1 \\ \delta_2 \\ \delta_3 \end{bmatrix}$$

$$Y_{(14\times1)} = \Lambda_{(14\times4)}\eta_{(4\times1)} + \varepsilon_{(14\times1)} \quad (2)$$

$$\begin{bmatrix} y_1 \\ y_2 \\ y_3 \\ y_4 \\ y_5 \\ y_6 \\ y_7 \\ y_8 \\ y_9 \\ y_{10} \\ y_{11} \\ y_{12} \\ y_{13} \\ y_{14} \end{bmatrix} = \begin{bmatrix} \lambda_{y_{11}} & 0 & 0 & 0 \\ 0 & \lambda_{y_{22}} & 0 & 0 \\ 0 & \lambda_{y_{32}} & 0 & 0 \\ 0 & \lambda_{y_{42}} & 0 & 0 \\ 0 & \lambda_{y_{52}} & 0 & 0 \\ 0 & \lambda_{y_{62}} & 0 & 0 \\ 0 & 0 & \lambda_{y_{73}} & 0 \\ 0 & 0 & \lambda_{y_{83}} & 0 \\ 0 & 0 & \lambda_{y_{93}} & 0 \\ 0 & 0 & \lambda_{y_{10\,3}} & 0 \\ 0 & 0 & 0 & \lambda_{y_{11\,4}} \\ 0 & 0 & 0 & \lambda_{y_{12\,4}} \\ 0 & 0 & 0 & \lambda_{y_{13\,4}} \\ 0 & 0 & 0 & \lambda_{y_{14\,4}} \end{bmatrix} \times \begin{bmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \\ \eta_4 \end{bmatrix} + \begin{bmatrix} \varepsilon_1 \\ \varepsilon_2 \\ \varepsilon_3 \\ \varepsilon_4 \\ \varepsilon_5 \\ \varepsilon_6 \\ \varepsilon_7 \\ \varepsilon_8 \\ \varepsilon_9 \\ \varepsilon_{10} \\ \varepsilon_{11} \\ \varepsilon_{12} \\ \varepsilon_{13} \\ \varepsilon_{14} \end{bmatrix}$$

All the factor loadings of the individual indicators on their respective constructs are statistically significant ($p < .001$), presenting support of the dimensionality and convergent validity of the constructs (Anderson and Gerbing, 1988) (see Figure 2). Additional analysis of correlations between items satisfied the $r = .85$ cutoff (Garson, 2001), indicating the model demonstrates adequate discriminant validity. Overall, the results indicate that the measurement models fit the data well and the constructs possess adequate

measurement properties for further analyses. The construct descriptive statistics and correlations are presented in Table 2.

Table 2: Construct Descriptive Statistics and Correlation Matrix

Construct	Items Used	Mean	Std. Dev.	1	2	3	4	5
1. EXPORTMO	3	4.80	.87	0.62				
2. COMMFREQ	1	13.95	22.21	0.09	--			
3. COMMQUAL	5	4.96	1.10	0.35***	0.12*	0.81		
4. INTERCOOP	4	4.91	1.17	0.46***	0.14**	0.62***	0.78	
5. EXPPERF	4	4.51	1.22	0.36***	0.10	0.22***	0.31***	0.87

This table shows the descriptive statistics and correlations between the key constructs included in this study. EXPORTMO = Export market orientation; COMMFREQ = Communication frequency; COMMQUAL = Communication quality; INTERCOOP = Interfirm cooperation; EXPPERF = Export performance. All constructs are composite scores of multiple items, with the exception of COMMFREQ, which was measured as a single-item. Cronbach's alphas are placed in the diagonal.
**** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$*

Structural Model Estimation and Results

Having achieved satisfactory fit in the measurement model, the structural model was then analyzed. A direct path from EXPORTMO to INTERCOOP was included in the model although it is not hypothesized. The EXPORTMO-INTERCOOP parameter estimate is intended to serve as a baseline to compare direct and indirect effects of EXPORTMO on INTERCOOP. Path coefficients were estimated using maximum likelihood estimation and are shown in Figure 2. The overall fitness indices indicate good fit of the data ($\chi^2_{(111)} = 230.36$, $p < .01$; GFI = .90; TLI = .91; CFI = .93; RMSEA =.067).

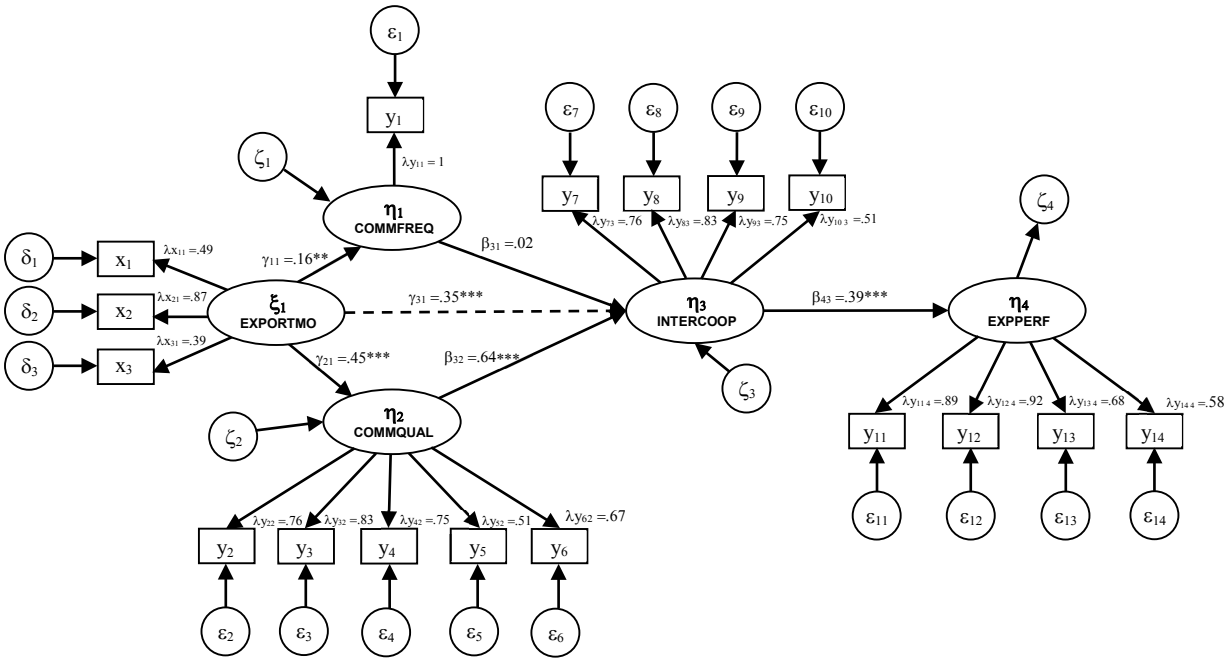
Empirical support was found for all but one of the proposed hypotheses. Specifically, H1a predicted that export market-oriented firms would have a higher degree of communication frequency with their overseas distributor. Moderate support is found for H1a ($\gamma_{11} = 0.16$, $p < .04$). H1b, which posited that export market-oriented firms would have higher levels of communication quality with their overseas distributor, is supported, with a highly significant positive effect ($\gamma_{21} = 0.45$, $p < .01$). The data provided no support for H2 ($\beta_{31} = 0.02$, $p > .10$), which expected a positive relationship between communication frequency and interfirm communication. H3 predicted a positive relationship between communication quality and interfirm cooperation, which is supported with a highly significant effect ($\beta_{32} = 0.64$, $p < .01$). Finally, a positive relationship between interfirm cooperation and export performance as postulated by H4 is fully supported through a highly significant effect ($\beta_{43} = 0.39$, $p < .01$). The results of the hypotheses testing are presented in Table 3. A full structural equation model along with the parameter estimations for both measurement and structural paths is illustrated in Figure 2. The additional path of the direct effect of export market-orientation on interfirm cooperation (depicted by a dotted line) is highly significant ($\gamma_{31} = 0.35$, $p < .01$). This indicates that the role of export market-orientation on interfirm cooperation is both direct and partially mediated by communication quality.

Table 3: Summary of Results of Hypotheses Testing

Hypothesis	Expected Sign	Parameter estimate	t-value	Results
H1a: EXPORTMO -> COMMFREQ	+	0.16	2.07	Supported
H1b: EXPORTMO -> COMMQUAL	+	0.45	4.21	Supported
H2: COMMFREQ -> INTERCOOP	+	0.02	0.47	Not Supported
H3: COMMQUAL -> INTERCOOP	+	0.64	6.87	Supported
H4: INTERCOOP -> EXPPERF	+	0.39	5.23	Supported

This table presents the standardized parameter estimate for hypotheses testing. Of the five hypotheses stated, four are supported by the data. H2, which hypothesized a positive relationship between communication frequency and interfirm cooperation is not supported.

Figure 2: Structural Path Model Parameter Estimates



This figure presents the structural equation model. All indicators (x's and y's), presented by 'squares', load significantly on their respective latent constructs (ξ and η's), which are illustrated by 'ellipses'. Export Market Orientation (EXPORTMO) is an exogenous variable represented by ξ_1. The endogenous variables in the study include, Communication Frequency (COMMFREQ), Communication Quality (COMMQUAL), Interfirm Cooperation (INTERCOOP), and Export Performance (EXPPERF), which are represented by η_1, η_2, η_3, and η_4, respectively. Measurement errors (δ's and ε's) and structural model residuals (ζ's) are illustrated by 'circles'. The paths of the structural model were estimated using maximum likelihood estimation. A direct path from EXPORTMO to INTERCOOP, as indicated by the dashed lined, was included in the analysis although it is not hypothesized in order to obtain a baseline path coefficient to compare the direct and the indirect effects of EXPORTMO on INTERCOOP. The data fit the model well, as suggested by the fit indices of $\chi^2_{(111)} = 230.36$, $p < .01$; GFI = .90; TLI = .91; CFI = .93; RMSEA =.067).
**** p < 0.01; ** p < 0.05; * p < 0.10*

Post-hoc Analysis

To address the lack of support for H2, additional analyses were conducted in order to examine possible moderating effects. This was done by applying subgroup analyses on the basis of three firm characteristics, including exporter firm size (i.e. smaller as '1 to 120 employees' versus larger as 'more than 120 employees'), exporter firm age (i.e. younger as '1 to 18 years' versus older 'over 18 years'), and industry type (i.e. labor-intensive industries as 'garments, textiles, and clothing/agriculture/food' versus 'others'). The standardized parameter estimates of the subgroup analyses are reported in Table 4. Across all subgroups, the relationship between interfirm communication frequency and interfirm cooperation as hypothesized in H2, remains insignificant.

As seen in Table 4, the subgroup parameter estimates are consistent with those of the pooled data, with the exception of the relationship between export market orientation and communication frequency. More specifically, export market orientation has no relationship with communication frequency among larger exporter firm ($\gamma_{11} = 0.05$, p = .662), older exporter firms ($\gamma_{11} = 0.09$, p = .423), and exporters of labor-intensive products ($\gamma_{11} = 0.01$, p = .920), which refutes H1 and contradicts the result of the pooled data. These results imply that the relationship between export market orientation and interfirm communication frequency is contingent upon certain firm characteristics.

Table 4: Subgroup Structural Model Standardized Parameter Estimates

	Subgroup Standardized Parameter Estimates					
	Exporter Size		Exporter Firm Age		Industry Type	
Path	Smaller Exporters (n=139)	Larger Exporters (n=103)	1-18 Years (n=117)	Older than 18 years (n=125)	Labor-intensive (n=116)	Other (n=126)
EXPORTMO -> COMMFREQ	0.25**	0.05	0.26**	0.09	0.01	0.32**
EXPORTMO -> COMMQUAL	0.42***	0.44**	0.45***	0.43**	0.59***	0.47**
COMMFREQ -> INTERCOOP	0.00	0.04	0.04	0.05	0.10	-0.06
COMMQUAL -> INTERCOOP	0.62***	0.60***	0.69***	0.52***	0.55***	0.64***
INTERCOOP -> EXPPERF	0.39***	0.47***	0.37***	0.41***	0.52***	0.29***
EXPORTMO -> INTERCOOP	0.41***	0.29**	0.26**	0.45***	0.32**	0.44**

*This table presents the standardized parameter estimates from subgroup structural equation model analyses with the primary aim to determine whether the lack of a significant relationship between communication frequency and interfirm cooperation is moderated by exporter firm characteristics. Subgroups were defined by three characteristics of firms including (1) exporter size in terms of number of employees, (2) exporter firm age in terms of years, and (3) industry type in terms of labor-intensity of product manufactured. These three firm characteristics do not moderate the relationship between communication frequency and interfirm cooperation. Overall, all subgroup parameter estimates are consistent with those found from the pooled data, with the exception of parameters estimates for the relationship between export market orientation and communication frequency. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$*

DISCUSSION AND CONCLUSION

This study was motivated by a desire to gain a better understanding of the relationships between export market orientation, interfirm communication, interfirm cooperation, and export performance. In doing so, we integrated the resource-based view, perspectives of cognitive structures from social psychology, and relationship marketing theory to propose the relationships among our constructs of interest. Our interdisciplinary approach contributes to the fields of strategic management, international marketing, and relationship marketing. Our study found that highly export market-oriented firms engage in higher levels of communication frequency and communication quality with their major overseas distributor. This indicates that exporters with a strong market orientation have fewer misunderstandings, easily reach agreements on contract terms, provide sufficient attention to and conduct a higher number of personal meetings per year with their overseas distributor. While interfirm communication quality has a strong positive effect on cooperation in terms of the exporter and importer working more closely together, the importer more willingly sharing technical or commercial information, setting compatible goals with one another, and putting cooperation before one another's short-term profits, the frequency for communication did not have any relationship with cooperation. In other words, our results show that the number of personal meetings that the exporter has with its overseas distributor is in no way related to interfirm cooperation. Lastly, our findings are consistent with prior research (e.g. Becchetti and Rossi 2000; Racela et al. 2007), revealing a strong positive relationship between cooperation and firm performance, at least in terms of the Thai exporter achieving export sales, export market share, export financial performance, and export market entry at a level higher than their competitors.

These results also present two additional meaningful practical insights for managers. One implication of the results is that exporters should establish a high level of cooperation with their overseas distributors since cooperation positively contributes to firm export performance. An exporter's cooperation with its overseas distributors can be improved when the exporter focuses on communication behaviors that foster clear and relevant information exchanges, which are based on the exporter's acquired and utilized market intelligence. The other implication of these results is that exporters must focus on 'quality' rather than 'quantity' in communication behaviors and the interactions with their overseas distributors. Export market-oriented firms are better off engaging in purposeful personal meetings (i.e. quality communication) rather than making personal contacts with their overseas distributor perhaps merely for the sake of 'keeping in touch.' Excessive or unnecessary personal meetings between the exporter and the importer may simply

increase the exporter's administrative or selling costs as well as serve as a misallocation of resources (i.e. time, effort) that could be better spent elsewhere in the export operation.

Despite the aforementioned theoretical and managerial contributions of this study, we acknowledge several limitations. Firstly, although the empirical evidence provided support for most of the hypothesized relationships, the cross-sectional nature of the data prohibits the temporal extensions of the findings. Replications of this study and longitudinal research methods can enhance the generalizability of the results over time and across contexts. Secondly, the nonsignificant relationship between interfirm communication frequency and interfirm cooperation should be given further attention. While our study, presented an explanation as to why theory is not supported, future consideration of other potential moderating variables, such as those relating to cultural differences (e.g. psychic distance) or relationship characteristics (e.g. dependence) may lend valuable insights on the communication frequency—interfirm cooperation link. Lastly, our study only examined the sole perspective of the exporter. Obtaining dyadic data from both the exporter and its importer/distributor would provide a richer understanding of the interfirm communication and collaboration.

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AUTHOR BIOGRAPHY

Olimpia C. Racela earned her D.B.A. in Marketing from Thammasat University, Thailand. She is a faculty member of the Mahasarakham Business School, Mahasarakham University, Thailand and a strategy consultant at ArtVScience. Her main research interests include international business and marketing strategy, new product development, and consumer behavior. She can be contacted through olimpia.r@acc.msu.ac.th.

Amonrat Thoumrungroje earned her Ph.D. in Business Administration from Washington State University, U.S.A. She is assistant professor of international business at Department of International Business Management, Assumption University, Thailand and a research consultant at ArtVScience. Her current research interests include entrepreneurship, institutional impact on business, international marketing strategy, strategies in emerging economies, and cross-cultural research and methodology.

SEGMENTING AND PROFILING THE CULTURAL TOURISM MARKET FOR AN ISLAND DESTINATION

Sean M. Hennessey, University of Prince Edward Island, Charlottetown, PEI, Canada
Dongkoo Yun, Tourism Research Centre, University of PEI, Charlottetown, PEI, Canada
Roberta MacDonald, University of Prince Edward Island, Charlottetown, PEI, Canada

ABSTRACT

Culture is an important part of the tourism "product" and is one of the variables that can increase the attractiveness and the competitiveness of a tourism destination. Cultural tourism covers all aspects of travel and provides an opportunity for visitors to learn about a destination's history and way of life. However, the size and importance of cultural tourism for specific destinations is still a matter of some debate. Some suggest that it is difficult to truly document the size of the cultural tourism market due to the issues of defining a "cultural tourist." This paper examines the magnitude and significance of cultural tourism for Prince Edward Island, a major Canadian tourist destination. In doing so, the paper segments and profiles the tourism market, and identifies distinguishing trip characteristics. Based on the research, two segments of travellers, based on cultural related activities, are clearly evident. The results indicate that "culture-seeking tourists" and "other interest tourists" are significantly different in terms of many travel variables, and particularly in spending patterns. For the destination studied, the extra economic impact associated with cultural visitors is substantial due to three factors: a closer personal connection to the destination, a longer overall length of stay, and higher per person per night spending.

JEL: L83, M31, Q21

KEYWORDS: Cultural Tourism, Cluster Analysis, Travel Activities, Economic Impact, Cultural Events

INTRODUCTION

Many research studies suggest that a substantial percentage of tourists seek cultural experiences, such as visiting cultural attractions and participating in diverse cultural activities that are *not* "sun, sand and sea" related. The OECD (2009) suggest that 40% of all international tourists are "cultural tourists." The Travel Industry Association of America has estimated that two-thirds of U.S. adults visit a cultural or heritage site or attraction when they travel (Silberberg, 1995). Based on this data, it has been argued that cultural tourists represent a new type of mass tourist who seek meaningful travel experiences (McKercher and Du Cros, 2003).

There is little doubt that culture is an important part of the tourism "product" and is one of the factors that can improve the competitiveness of tourism destinations. An examination of the forces shaping the cultural "product" helps identify the reasons why cultural tourism is critical at destinations. For this study, cultural tourism covers all aspects of travel where visitors can learn about another area's history and way of life. Thus, cultural factors in the context of tourism include the entertainment, food, drink, hospitality, architecture, and manufactured and hand-crafted products of a destination, and all other characteristics of a destination's way of life (McIntosh and Goeldner, 1990). Culture also includes family patterns, folklore, social customs, museums, monuments, historical structures, landmarks, wilderness areas, landscapes, historic buildings, and artifacts. Tourists travel to be informed and to experience folklore, customs, natural landscapes, and historical landmarks as well as being involved in other activities such as nature, adventure, sports, festivals, crafts and sightseeing (Kerstetter et al., 1998). They share a community's pride in "sense of place" (MacDonald and Jolliffe, 2002). In addition, many activities at destinations that are not educational or cultural in a narrow sense provide opportunities for tourists to get to know each other (Richards, 1996). However, the magnitude and importance of cultural tourism and cultural tourists

for specific destinations is still a matter of debate. McKercher and Chan (2005) suggest that it is difficult to truly document the size of the cultural tourism market due to issues in previous literature.

Who are the tourists that visit cultural attractions or engage in cultural activities? What specific travel behaviours make them distinct from other travellers? How large is the demand for cultural tourism and what elements of culture attract tourists? How can cultural tourism be successfully developed and promoted? The answers to these types of questions may be quite different among destinations due to the different elements that create the culture of each destination. This paper's objective is to segment and profile the cultural tourism market for an Island destination. The remainder of this paper is organized as follows. The next section provides the literature review while Section 3 describes the data and discusses the methodology used. Section 4 documents the results while the final section concludes the paper.

LITERATURE REVIEW

The terms "cultural tourism" and "cultural tourists" are widely used, but also misunderstood. In addition, the definition of cultural tourism and cultural tourist remains vague (Aluza, O'Leary, and Morrison, 1998). Academics, practitioners, and policy-makers have been quick to identify cultural tourism as a significant and growing market, but have been hesitant or unable to describe and define the market. This may be due to the issues raised by McKercher and Chan (2005) who suggest that much of special interest tourism, including cultural tourism, is poorly defined in the literature due to confusion between actions and motives. In addition, they suggest that the literature that reports the percentage of special interest visitors to a destination may be overestimated by upwards of 18 times.

Most attempts at defining cultural tourism agree that it consists of the consumption of culture by tourists (Richards, 1996). However, this approach also produces new problems because it includes a wide range of cultural elements. For example, what kinds of cultural experiences should be included within the scope of cultural tourism? Does a three-hour visit to a museum turn an entire two-week holiday into a cultural tourism experience? Are tourists who engage in cultural activities initially motivated to travel because of cultural attractions? Or, do they find out about the cultural product after arriving at a destination and engage in the activity "as a way to fill an afternoon?" This is certainly the view of McKercher and Chan (2005) who contend that a tourist party visiting a museum is not a cultural tourist, unless visiting museums (engaging in cultural activities) was the prime motivator for visiting the destination. However, this may be a rather narrow view of the term, and the concept (ICOMOS, 1997).

It is clear that defining cultural tourism and cultural tourists is complex because it can mean different things to different people (McKercher and Du Cros, 2002b, 2003). For many tourists, travelling to experience different cultures equates to cultural tourism. For these travellers, encountering different cultures is synonymous with a cultural tourism experience. They consume the different sights, sounds, tastes and smells of an unfamiliar culture. On the other hand, academics and tourism marketers define cultural tourism as a discrete product category that is differentiated from other tourism activities or attractions by consumption of a destination's tangible and intangible cultural heritage (Hall and MacArthur, 1998; Leask and Yeoman, 1999; Richards, 1996; Shackley, 1998). MacDonald and Jolliffe (2002) suggest that cultural tourism helps to identify the destinations potential visitors wish to visit for education, entertainment, and enrichment.

A growing body of literature indicates that some people are more highly motivated to participate in cultural tourism than others. McKercher (2002a) suggests that a definition of cultural tourists is based on the answer to two questions: "what are the main reasons for a trip?"; and "what were the level of experiences at the destination?" A number of both conceptual and empirical studies have attempted to implement this process and explore the typology of cultural tourists.

Silberberg (1995) identified four types of cultural tourists, ranging from the greatly motivated to the accidental, while D. K. Shifflet and Associates (1999) identified three types of heritage tourists: "core", "moderate" and "low", with each of the segments demonstrating different behaviour and spending patterns. Stebbins (1996) suggests that there are two types of cultural tourists: "general" and "specialized." The general cultural tourist makes a hobby of visiting different geographic sites. Over time, as general cultural tourists increase their knowledge of different cultures, they may become specialized cultural tourists who focus on one or a small number of geographic sites or cultural entities.

Aluza et al. (1998) contend that the cultural and heritage tourism market consists of five distinct segments with each having different trip characteristics, suggesting that not all cultural and heritage tourists are alike and should be targeted in different ways. McKercher (2002a) also suggests that cultural tourism can be segmented into five markets based on the depth at which the tourists engage in a culture or a cultural attraction, and how central the culture or attraction was to their choice of destination. To some segments, culture or the attraction played a major role in their decision to visit while for other segments culture played either a minor role or no role in their decision-making (McKercher and Du Cros, 2003).

Martin et al. (2004) report that cultural and general visitors are very different in terms of activities, expenditures, information sources used, and lodging preferences. Their study found that cultural heritage visitors were different from other visitors on most measurements, implying that heritage planners and marketers should take these differences into consideration when planning and promoting cultural heritage tourism. Nyaupane and Andereck (2007) suggest that cultural tourists can be divided into two groups: "true" and "spurious" cultural tourists. Empirical results confirm that the two types of cultural tourists were distinct in terms of demographics, importance of attractions, and travel motivations. Figini and Vici (2012), in a study of off-season visitors to a mass tourism destination, report that cultural tourists are a large and valuable segment and that cultural tourism can aid in smoothing the seasonal nature of tourism while diversifying tourism investment. Gnoth and Zins (2013) develop a cultural contact scale in an attempt to provide a more comprehensive set of variables to measure interest and involvement in cultural tourism. Based on travel motives and activities, six cultural segments are highlighted with 45% of respondents being open to "deep cultural experiences."

Richards and Van der Ark (2013) visualize the relationship between cultural consumers and attractions and report that two dimensions, type of attraction and cultural experience, effectively discriminate different groups of cultural tourists. Cultural consumption is related to previous cultural experiences and age suggesting that visitors develop a cultural tourism "travel career." This paper examines the magnitude and significance of cultural tourism for a major Canadian tourist destination. In doing so, the paper attempts to segment and profile the cultural tourism market, identify distinguishing trip characteristics of culture-seeking tourists, and document the economic impact of these visitors to the destination.

DATA AND METHODOLOGY

This study used secondary data drawn from the 2004 Tourist Exit Survey conducted on Prince Edward Island (PEI), Canada's smallest province, and a major tourist destination. The survey was completed during the main tourist season from June 1 to September 30. Exit point intercepts of non-resident visitors were used to collect contact details. A follow-up telephone interview was used to collect the data. The main purposes of the survey are to collect information on key tourism indicators such as visitor origins, demographics, travel motivators, activities, trip planning, mode of travel, type of accommodation, length of stay, and expenditures. In 2004, 3,139 surveys were completed by overnight pleasure tourists and these were used for this study. Among respondents, nearly 61% were male, 58% worked full time, and 29% were retired. In addition, 76.1% were from Canada, 21.2% from the US, while only 2.7% were international visitors. Respondents varied widely in age, education, and annual household income. Of these, 27.3% were in the 50 to 59 years of age group, 23.7% had graduated from university

(undergraduate), and 25.8% had an annual household income of $50,000 to $75,000, while 24% had incomes over $100,000.

The Exit Survey listed 28 activities that respondents could indicate they had participated in while visiting PEI. For this study, nine of these were deemed to be cultural activities: visiting Canada's birthplace attractions, visiting Founders' Hall, visiting historical/cultural attractions, visiting Anne of Green Gables attractions, experiencing Acadian culture, attending a festival or event, attending a cultural performance (live theatre), going to a lobster supper (meal), and enjoying evening entertainment (bar, pub, etc.). These nine cultural activities were used to develop a typology of cultural tourists.

These activities were deemed to be cultural activities for various reasons. The first two are associated with PEI being considered the "birthplace of Canada." In 1864 an important conference was held between the five British colonies that existed in Canada at the time. The purpose of the conference was to discuss a union of the three Maritime Provinces, however, it gradually evolved into a conference to discuss the union of the five colonies to form the country of Canada. In 1867 Canada became a country and the Charlottetown Conference, as it became known, was deemed to be the beginning point of the process. The third item relates to the fact that PEI was one of the first areas settled in North America. As a result there are many other historical and cultural attractions on PEI. Item 4 "Anne attractions" refers to the book Anne of Green Gables written by the well-known Island author Lucy Maud Montgomery. The book was published in 1908, and has been translated into 15 different languages, filmed, made into a television series, and is the title of a musical stage production that has been staged since 1965 and has toured around the world. The story imparts an image of PEI that each year draws thousands of visitors. As a result, Anne is a major focus of the tourism industry in PEI.

Item 5 refers to the second founding group on PEI, the French settlers, who in the Maritimes are known as the Acadians. In the summer, PEI hosts many festivals, events, and live theatre that are often associated with the "Island way of life." Lobster suppers have been a staple of the PEI dining experience for over 40 years. These are often held in church halls and run by community groups and are viewed as being part of the cultural experience on PEI. Finally, bars and pubs are a way for tourists to interact with the local population and in many destinations are viewed as being a part of the cultural experience. To profile characteristics of cultural tourists, eight trip-related variables were used: geographical market, types of visitation, travel information sources used, travelling party size, trip duration, recall of communities visited, travel activities, and expenditures. Of these trip-related variables, the two multiple-response variables (travel information sources used and recall of communities visited), were converted to index scores.On the survey, 13 selectable information sources were provided.

An index score of travel information sources was developed by dividing the number of information sources selected by the respondent by 13, and multiplying by 100. Likewise, an index score of the recall of the communities visited on PEI was calculated. On the survey, 28 communities in eight regions on PEI were provided. The index was developed by dividing the total number of regions recalled by 9, the number of regions listed, and multiplying by 100. The data analysis in this study proceeded in three stages. First, all respondents were grouped by using a *K*-means clustering procedure whereby a set of observations are partitioned into *k* groups (Pollard, 1981). This clustering method was employed to find disjoint clusters (SAS Institute, Inc., 1990) with the means of each cultural activity item serving as an input. In the second stage of the study, an analysis of variance (ANOVA), a multivariate analysis of variance (MANOVA), and discriminant analysis were performed. First, separate ANOVAs were conducted on each of the nine cultural activities to determine whether the variables in each cluster group differed. Next, MANOVA and discriminant analysis were run to check the overall significance of cluster group differences that statistically confirm the results of cluster analysis. Discriminant analysis was used to identify the cultural activity's influence on the cluster.

RESULTS AND DISCUSSION

Table 1 clearly illustrates that the 3,139 overnight pleasure tourists could be neatly partitioned into two cluster groups based on the nine cultural activities. Determination of the number of clusters is based on the examination of the *F*-statistics from a two-, three-, four-, and five-cluster solution derived from a *K*-means cluster analysis (Milligan and Cooper, 1985; Reynolds and Beatty, 1999). The two-cluster solution was the most meaningful and interpretable.

Table 1: Summary of Clustering, Anovas, MANOVA and Discriminant Analysis

	Cluster1	Cluster2	Total	*F*-value	*R*-square
Panel A: Clustering Statistics					
Number of observations in cluster	1,984	1,155	3,139		
Percent of observations in cluster	63.2%	36.8%	100%		
RMS Std. Deviation	31.9	45.1			
Maximum distance from the seed to observation	189.4	193.8			
Nearest cluster	2	1			
Distance between cluster centroids	129.2	129.2			
Panel B: ANOVA Statistics (in percent)					
Visiting historical/cultural attractions	17.0	87.5	42.7	2899.85***	0.480
Visiting Canada's birthplace attractions	6.4	60.5	26.1	1654.86***	0.345
Experiencing Acadian culture	11.0	60.5	29.0	1149.58***	0.268
Visiting Founders' Hall	3.3	40.2	16.7	892.05***	0.221
Visiting Anne of Green Gables attractions	25.2	74.0	43.0	872.87***	0.218
Going to a lobster supper (meal)	24.6	64.1	39.0	594.15***	0.159
Attending a cultural performance (live theatre)	7.3	29.4	15.4	309.94***	0.090
Attending a festival or event	9.3	31.4	17.4	284.96***	0.083
Enjoying evening entertainment (bar, pub, etc.)	7.5	19.2	11.8	95.40***	0.030
Panel C: MANOVA Statistics	Value	df	*F*-value	*p*-value	
Wilks' Lambda	0.251	10	1039.68	<0.0001	
Pillai's Trace	0.749	10	1039.68	<0.0001	
Hotelling-Lawley Trace	2.990	10	1039.68	<0.0001	
Panel D: Discriminant Statistics					
Posterior Probability Error Rate Estimates for Cluster	0.0548	0.0480	0.0514		
Hit Ratio (%)	(94.5%)	(95.2%)	(94.9%)		

*Notes: Result of cluster analysis regarding participation in nine cultural activities. Based on responses from 3,139 overnight pleasure visitors to the 2004 Exit Survey for PEI. Two clusters were identified based on the nine cultural activities. Cluster 1 are "other interest tourists;" Cluster 2 are "culture-seeking tourists." The table provide statistics indicating the model was an excellent fit for the data. *** Significant at 0.1% level.*

Panel A of Table 1 reports the clustering statistics. Of the 3,139 overnight pleasure visitors 1,155 (36.8%) were highly involved in cultural activities and are termed "culture-seeking tourists." The remaining 63.2% of visitors reported low rates of participation in culture related activities and are termed "other interest tourists." The remaining clustering statistics indicate that the clustering model was an excellent fit for the data. It is interesting that the percentage of cultural tourists reported in this study (36.8%) closely corresponds with the 40% reported by the OECD (2009). Panel B of Table 1 presents the ANOVA statistics for the two clusters. The numbers indicate the percentage of the respondents in each cluster that reported participating in the stated activity. For example, only 11% of the visitors in Cluster 1 reported that they experienced Acadian culture, while 60.5% of Cluster 2 reported this activity. A review of Panel B clearly illustrates that Cluster 1 has much lower levels of participation for all nine activities, thus supporting the labels used to describe the clusters.

The *F*-values in Panel B reveal that the mean scores for all nine of the cultural activities are significantly different at better than the 0.001 level for the two clusters. This result supports the method used to analyze the data. To further confirm the clusters, three types of MANOVA analyses testing the group differences in the cultural activity items was completed. The MANOVA statistics provided in Panel C of Table 1 were all significant at better than the 0.001 level. Clearly, there are two distinct groups evident in this data.

Discriminant analysis was performed to examine which cultural activity items highly contributed to the clusters (the *R*-square and *F*-value in Panel B) and what percentage of hit ratio (or posterior probability error rates) exists in the identified clusters (Panel D). The results indicate that the model correctly classified 94.9% of the survey respondents into cluster groups. Of the nine cultural activity measures, "visiting historical/cultural attractions" was the most significant contributor to the clustering segments, closely followed by "visiting Canada's birthplace attractions." The next three activities (experiencing Acadian culture, visiting Founders' Hall, and visiting Anne of Green Gables attractions) were all very similar in terms of their contribution to the clustering model. The remaining four activities were significant but more minor contributors. The next stage of the study investigated whether there were any significant differences between the two groups of visitors with respect to trip-related characteristics.

These characteristics included geographical markets, types of visitation, travel information used, recall of communities visited, travelling party size, trip duration, travel activities, and travel expenditures. As shown in Table 2, statistically significant differences between the two groups were found in geographical markets and type of visit. The members of cluster 1 (other interest tourists) were the most likely to be from Atlantic Canada (41.3%), while Cluster 2 (culture-seeking tourists) were the most likely to be from U.S. (39.7%) and areas more distant from PEI like the western parts of Canada and other countries. It was also found that culture seekers were much more likely to be first-time visitors (63.6%) whereas other interest tourists were more likely to be repeat visitors (64.6%). It seems that once a visitor has been to PEI once, they have exhausted the cultural attractions available. This is consistent with results reported by Oppermann (1997), among others.

Table 2: Origin and Type of Visit by Cluster

	Cluster1 (*n*=1,984)	**Cluster2 (*n*=1,155)**	**Total (*n*=3,139)**	**χ^2 value**
Visitor Origin				
Atlantic Canada	41.4%	12.0%	30.6%	339.02***
U.S.	24.6%	39.7%	30.2%	
Ontario	14.8%	16.4%	15.4%	
Quebec	7.5%	7.3%	7.4%	
Other Canada	8.7%	16.6%	11.6%	
Other Countries	3.0%	8.1%	4.9%	
Types of Visit				
First-time Visitors	35.4%	63.6%	45.8%	234.77***
Repeat Visitors	64.6%	36.4%	54.2%	

*Notes: Result of cluster analysis regarding participation in nine cultural activities. Based on responses from 3,139 overnight pleasure visitors to the 2004 Exit Survey for PEI. Two clusters were identified based on the nine cultural activities. Cluster 1 are "other interest tourists;" Cluster 2 are "culture-seeking tourists." The table provide the origin and visit type of respondent. *** Significant at 0.1% level.*

Table 3 provides an analysis of the various types of travel information sources used by visitors in the two clusters. The table provides the index variable of the number of travel information sources used and the percentage of those visitors who reported using the various types of travel information sources. There are a number of interesting findings. First, the Internet (PEI homepage and other tourism Websites) was the travel information source most widely used by all visitors, and for each of the groups. Clearly, the Internet has become a widely used source of travel information. (See Wang et al., 2002; Bieger and Laesser, 2004; Pearce and Schott 2005). Closely following this was the PEI travel information package, and word-of-mouth (information from friends, relatives, and co-workers). Next was travel information from tourist information centers, from the AAA/CAA, and from travel books. Getting information into visitor's hands is important. Woodside et al. (1997) report that destination visitors who are high information users tend to participate more in activities, spend more money daily, are positive about their experiences, and are more intent to return compared to low and nonusers of information. However, some information sources

just contribute to the process of making travel decisions, others are "decisive." Fodness & Murray (1998) report that independent external sources such as word-of-mouth advice and published travel guides help cement travel decisions.

Table 3: Comparison of Travel Information Sources Used by Cluster

	Cluster1 (*n*=1,984)	**Cluster2 (*n*=1,155)**	**Total (*n*=3,139)**	**χ^2 value**
Index of Travel Information Sources used	12.9	19.2	15.2	-14.59***
Internet/PEI Homepage/Tourism Web Site	40.8%	58.6%	47.4%	92.65***
PEI travel information package	33.1%	49.3%	39.0%	80.51***
Friends, relatives, co-workers	30.2%	36.7%	32.6%	13.90***
Tourist information centre in NS or NB	17.9%	26.6%	21.1%	33.10***
AAA/CAA Package	15.2%	30.2%	20.7%	100.64***
Geography or travel book on PEI or Canada	16.2%	28.5%	20.7%	67.32***
Television program or advertisement	4.8%	6.6%	5.4%	4.55*
Newspaper story or advertisement	4.0%	6.1%	4.8%	7.13**
Travel agent	1.8%	3.3%	2.3%	7.48**
Past experience	1.2%	1.0%	1.1%	0.19
Obtained information in PEI	0.6%	0.5%	0.5%	0.02
Maps/Atlas	0.5%	0.3%	0.4%	1.06
Other	0.8%	1.4%	1.0%	2.96

*Notes: Result of cluster analysis regarding participation in nine cultural activities. Based on responses from 3,139 overnight pleasure visitors to the 2004 Exit Survey for PEI. Two clusters were identified based on the nine cultural activities. Cluster 1 are "other interest tourists;" Cluster 2 are "culture-seeking tourists." The table provide the percentage of respondents using the various information sources available. ***, **, and * indicate the t-test result is significant at the 0.1%, 1%, and 5% level.*

These findings are clearly supported by the results provided in Table 3. While the six information sources discussed above are used by both groups of travellers, it is clear that the culture-seeking tourists are significantly more likely to use these sources. Based on this, it would be expected that these visitors participate in more activities, spend more while at the destination, and be more positive regarding their experiences. These, of course, would be exactly the type of visitors all destinations desire.Visitors to PEI are less likely to use the next three information sources: television programs or advertisements, newspaper stories or advertisements, and travel agents. However, even for these culture-seeking tourists showed a higher rate of use. The final four items were insignificant information sources. Overall, the results in Table 2 indicate that statistically significant differences between the two groups of tourists were found in the index variable of travel information sources used and nine of the individual information sources. Culture-seeking tourists are much more likely to use travel information to plan the trip, and based on the literature that is a positive for the destination.

As presented in Table 4, statistically significant differences between the two groups of tourists were found in an index of recall of communities visited and in the percentage of tourists visiting the eight regions on PEI. Overall, it was found that culture-seeking tourists were much more likely to recall the communities visited on Prince Edward Island than other interest tourists. Culture-seeking tourists were most likely to recall spending time in Charlottetown, where the Canada's birthplace attractions are concentrated. This is followed by the North shore area (Kensington, Stanley Bridge, Cavendish, and Stanhope) where the "Anne' attractions are located.

Table 4: Comparison of Recall of Communities Visited by Cluster

	Cluster1 (*n*=1,984)	Cluster2 (*n*=1,155)	Total (*n*=3,139)	χ^2 value
Index of Recall of Communities visited	30.7	47.0	36.7	-16.96***
Charlottetown	58.8%	82.4%	67.5%	186.11***
Kensington, Stanley Bridge, Cavendish, Stanhope	53.0%	79.9%	62.9%	226.23***
Summerside	38.2%	61.6%	46.8%	160.61***
Brudenell, Georgetown, Montague, Murray River, Wood Islands	38.7%	56.4%	45.2%	92.39***
Gateway Village, Victoria-by-the Sea, Cornwall, Fort Amherst	29.1%	45.1%	35.0%	81.88***
Tignish, Alberton, Mill River, O'Leary, West Point	20.7%	37.7%	27.0%	106.49***
Mount Stewart, Crowbush, St. Peter's, Souris	22.4%	30.9%	25.5%	27.95***
Tyne Valley, Wellington, Mont Carmel, Miscouche	14.4%	27.4%	19.2%	78.91***
Any other areas that you recall visiting	1.0%	1.6%	1.2%	2.88

*Note: Result of cluster analysis regarding participation in nine cultural activities. Based on responses from 3,139 overnight pleasure visitors to the 2004 Exit Survey for PEI. Two clusters were identified based on the nine cultural activities. Cluster 1 are "other interest tourists;" Cluster 2 are "culture-seeking tourists." The table provide the percentage of respondents who could the communities visited on the trip. ***, **, and * indicate the t-test result is significant at the 0.1%, 1%, and 5% level.*

Next is Summerside where the difference between the two clusters is the greatest. This is considered the start of the Acadian region on PEI. The Acadian area on PEI also includes the Tignish through to the Tyne Valley areas where large differences between the two clusters are also evident. Overall, cultural tourists are either more likely to visit more areas and communities, or a more likely to recall the visit at a later date. This fully supports the Woodside et al. (1997) results. It is also surprising since the other interest tourists were more likely to be from the sister provinces of Nova Scotia and New Brunswick and to be repeat visitors. It would be expected that these two groups of visitors would be more likely to recall the communities visited since they should know the Province better than more distant and first-time visitors. While the travel party size was essentially identical between the two clusters, culture-seeking tourists spent more time on PEI as shown in Table 5. While the difference is statistically significant, the difference from a practical perspective, 4.9 versus 4.2 nights, may seem modest. However, across the over 300,000 travel parties that visited PEI in 2004, the economic impact of such a difference is highly significant.

Table 5: Comparison of Travel Party Size and Trip Duration by Cluster

	Cluster1 (*n*=1,984)	**Cluster2 (*n*=1,155)**	**Total (*n*=3,139)**	***t*-value**
Average Travelling Party Size (*n*)	2.91	2.96	2.93	-0.85
Trip Duration (average number of nights stayed)	4.19	4.98	4.48	-4.07***

*Note: Result of cluster analysis regarding participation in nine cultural activities. Based on responses from 3,139 overnight pleasure visitors to the 2004 Exit Survey for PEI. Two clusters were identified based on the nine cultural activities. Cluster 1 are "other interest tourists;" Cluster 2 are "culture-seeking tourists." The table provide the travel party size and trip duration. *** indicate the t-test result is significant at the 0.1% level.*

Results of independent *t*-tests indicated that the level of activities, other than culture-related, were also significantly different between culture-seeking and other interest tourists. As shown in Table 6, culture-seeking tourists were much more likely to participate in all but three of the activities: visit friends or relatives, camping, and playing golf. Given the much higher frequency of other interest tourists who are repeat visitors, it is not surprising that this group would be more likely to visit friends or relatives.

It is also important to note that for many of these activities, the differences in the participation rates between the two clusters are extreme. For example, the differences between the five most popular activities (the first five in Table 6) range from 46.7% to 103.4%. The average across the five was 72%. That is, across the five, the culture-seeking tourists were 72% more likely to engage in these activities than the other interest tourists. In addition, the differences were highly significant. Overall, while it is true that all overnight pleasure tourists engage in travel activities, the group that also engages visits

cultural attractions were more likely to also participate in other activities. Culture-seeking visitors are active while at a destination. While some of these activities are free (sightseeing, driving tour, hiking), many are costly activities that will have the effect of increasing the economic impact of these visitors.

Table 6: Travel Activity Participation Rate by Cluster

Travel Activities participated in (%)	Cluster1 (*n*=1,984)	Cluster2 (*n*=1,155)	Total (*n*=3,139)	*t*-value
Sightseeing	61.7	90.5	72.3	-20.64***
Beach visits	55.4	82.7	65.5	-17.28***
Craft/souvenir shopping	49.9	82.7	62.0	-20.73***
Visiting a national park	35.8	72.8	49.4	-21.81***
Driving tour	33.6	65.5	45.3	-18.19***
Shopping (general merchandise)	31.8	49.2	38.2	-9.65***
Visiting friends or relatives	30.0	20.6	26.6	5.99***
Confederation trail	12.6	38.8	22.2	-16.20***
Hiking	10.9	30.0	17.9	-12.55***
Camping	17.8	17.0	17.5	0.62
Bird watching	11.3	26.1	16.8	-10.03***
Visiting a theme, fun or amusement park	14.6	16.5	15.3	-1.39
Playing golf	13.6	10.6	12.5	2.56**
Boating/canoeing/kayaking/sailing	5.6	11.7	7.9	-5.60***
Cycling	5.3	8.0	6.3	-2.84**
Participating in a sports game (participant)	5.5	5.8	5.6	-0.30
Deep sea/salt water fishing	3.9	5.2	4.4	-1.68
Attending a sport event as a spectator	3.0	3.2	3.1	-0.36

*Note: Result of cluster analysis regarding participation in nine cultural activities. Based on responses from 3,139 overnight pleasure visitors to the 2004 Exit Survey for PEI. Two clusters were identified based on the nine cultural activities. Cluster 1 are "other interest tourists;" Cluster 2 are "culture-seeking tourists." The table provide the percentage of respondents who participated in the stated travel activity. *** and ** indicate the t-test result is significant at the 0.1% and 1% level.*

This finding is likely the result of the image of PEI in the minds of visitors. The brand for PEI is "The Gentle Island," and PEI is marketed as a place to "lay back and relax, a place to come to get away from your hectic lifestyle." Therefore, it is not surprising that about two-thirds of visitors come to do just that. These results should not be interpreted to mean that the other interest tourists have no interests or do not engage in activities, in general. It may simply mean that these visitors do not engage in many activities, *while visiting PEI*. If that is the case, it means the millions that the public and private sectors are spending on branding and marketing PEI is working.

This greater economic impact is clearly reflected in Table 7. Here it can be seen that statistically significant differences exist in most of the travel expenditure variables between the clusters. Overall, culture-seeking tourists spent significantly more money than other interest tourists, 46% more. To negate the effects of travelling party size and trip duration, spending is also calculated on a per person per night basis. Here as well, culture-seeking tourists are shown to spend 21.5% more money than other interest tourists. When considering the expenditure categories, the largest percentage differences were on admission fees, spending on souvenirs and crafts, and at restaurants and bars. Culture-seeking tourists spent more on most categories of travel expenditures than did other interest tourists. The exceptions were "groceries and liquor" and "sports and recreation." This may imply that these visitors were more likely to be camping or staying in a cottage or cabin.

Table 7: Comparison of Travel Expenditures by Cluster

Travel Expenditures	Cluster1 (*n*=1,984)	Cluster2 (*n*=1,155)	Total (*n*=3,139)	*t*-value
Average total spending per party per trip	$818.36	$1,193.70	$957.86	-9.33***
Average spending per person per night	$100.45	$122.05	$108.48	-6.44***
Spending on accommodations	$35.21	$42.03	$37.76	-4.68***
Spending at restaurants and bars	$23.16	$28.98	$25.33	-5.72***
Spending on groceries and liquor	$6.10	$5.28	$5.80	2.66**
Spending on admission fees	$5.23	$7.92	$6.23	-6.84***
Spending on shopping for souvenirs and crafts	$8.90	$12.77	$10.34	-5.28***
Spending on shopping for other merchandise	$5.13	$5.08	$5.11	0.10
Spending on auto/cycle related	$11.76	$14.17	$12.66	-2.08*
Spending on sports and recreation	$3.65	$2.33	$3.16	3.04**
Spending on night entertainment	$0.98	$2.05	$1.38	-4.35***
Other spending	$1.41	$1.77	$1.55	-1.06

*Note: Result of cluster analysis regarding participation in nine cultural activities. Based on responses from 3,139 overnight pleasure visitors to the 2004 Exit Survey for PEI. Two clusters were identified based on the nine cultural activities. Cluster 1 are "other interest tourists;" Cluster 2 are "culture-seeking tourists." The table provide the spending reported by respondents while on the trip. ***, **, and * indicate the t-test result is significant at the 0.1%, 1%, and 5% level.*

CONCLUDING COMMENTS

According to the OECD (2009), cultural tourism accounts for 360 million international trips a year (40% of global tourist demand) and thus is a vital market segment. However, this large segment has diversified and fragmented into many different niches. The purpose of this study was to test whether it is possible to segment the market of those who visit a destination, based on the activities pursued while visiting. Culture related activities were used as the basis for the segmentation analysis since culture is an important part of the tourism "product" for destinations around the world. A major Canadian tourist destination, Prince Edward Island, a small province on the east coast of Canada, was used as a case study. Data on a broad list of culture related activities was available from the 2004 exit survey for PEI.

If an activity or group of like activities is a useful market segmentation tool, then there should be significant differences in the activities pursued while on vacation between various groups of visitors. For this study, the basis for segmenting the market of visitors was nine activities that are clearly viewed as "cultural" in the terms of PEI as the travel destination. The primary analytical tool used in the study was cluster analysis. The first cluster was labelled "other interest tourists who accounted for the majority of overnight visitors to PEI in 2004 (63.2%). These visitors had relatively low involvement in the nine cultural activities. The percentage of these non-cultural visitors that engaged in one of these activities ranged from a low of 3.3% to a high of 25.2%, with an average of 12.4%.

The second cluster, "culture-seeking tourists" accounted for 36.8% of the overnight visitors to PEI in 2004. They were moderately to highly involved in the nine cultural activities. The percentage of these cultural visitors that engaged in one of these activities ranged from a low of 19.2% to a high of 87.5%, with an average of 51.9%. Clearly, the clustering analysis distinguished between these two groups of visitors, and indicates that segmenting the market of PEI visitors based on these variables is a valid procedure. In addition, the results indicate that there are significant differences between the two clusters with respect to trip characteristics. Culture-seeking tourists were more likely to be from geographically distant markets (i.e., more distant parts of Canada and other countries), be first-time visitors, use more travel information sources, stay more nights, have better recall of the communities visited, engage in many other non-cultural travel activities, and spend more money than the other interest tourists. On the other hand, these other interest tourists tended to be from closer markets (i.e., the other two Maritime Provinces of New Brunswick and Nova Scotia), be repeat visitors, visit friends or relatives and play more golf than culture-seeking tourists, and spend more money on "groceries and liquor" and "sports and

recreation." One of the limitations of the study is that it cannot be definitively concluded that the visitors termed "culture-seeking tourists" are "true" cultural tourists. It is highly probable that not all of these visitors travelled to PEI solely, or even primarily, for cultural reasons and, thus, may not be "true" cultural tourists (McKercher and Chan, 2005). Different people will participate in cultural activities and visit cultural attractions at different levels, depending on their own interests, travel motivation, cultural distance, preferred experiences or activities, level of knowledge, perceptions of a destination, amount of pre-trip planning, trip-related characteristics, socio-demographic background, and other factors (McKercher and Cros, 2003; Prentice, Witt, and Hamer, 1998; Stebbins, 1996; Timothy, 1997).

However, based on the results of this paper, the visitors labelled "culture-seeking tourists" are significantly more engaged in cultural activities than the "other interest visitors." It could be argued that for some, perhaps the majority, of these tourists, visiting cultural attractions was not a primary reason for their trip to PEI. If so, perhaps these visitors are not "true" cultural tourists. However, this group clearly seeks out and is actively engaged in cultural activities at much higher rates than the other interest tourists. Therefore, it can be concluded that segmenting the market of visitors to PEI based on culture-related activities is valid; this segment of visitors are very different from the other interest group of visitors.

But, it is also the case that additional research on cultural tourism may reveal more meaningful subgroups of cultural tourists, and more refined segments. Further research on tourism and culture should be undertaken, applying both qualitative and quantitative methods, to further investigate the importance of the cultural "product" in attracting visitors to a destination. However, it would be a mistake to limit this research to only those who report that they primarily travel for cultural reasons and seek a deep cultural experience. That is too restrictive a requirement and will have the effect of artificially reducing the apparent size of the culture-seeking market. This additional research could also be the basis for making comparisons between destinations, particularly islands, where the cultural "product" and the underlying reasons why tourists visit may be more easily defined. It has been suggested that culture is something inherent in the island tourism product rather than a niche market in itself (Cave et al., 2007; Cuccia and Rizzo, 2011). Islands are a distinct type of travel market and the culture of these unique places may well be a key motivating reason why many tourists visit (Jolliffe and Baum, 1999; Prohaska, 1995; Kochel, 1994; Hennessey et al., 2012).

In conclusion, this paper illustrates that there are significant differences between "culture-seeking" and "other interest" tourists. The results for the other interest tourists seem to suggest that the millions that the public and private sectors are spending on branding and marketing PEI as "The Gentle Island" is working. These visitors seem to view PEI as a place to "lay back, relax, and get away from our hectic lifestyle." However, cultural themes are an important factor for a significant portion of tourists visiting PEI and demonstrated that these culture-seekers are valuable in terms of their economic contribution to the destination and cultural/social interaction with communities. These culture-seeking tourists also prefer to participate in other activities especially those related to nature, recreation, and entertainment.

This result may also impact public policy and the investment made in a destination's tourism "product." Cultural tourism can result in the preservation of a destination's cultural heritage and values for future generations, resulting in positive attitudes toward tourism by both residents and visitors (McKercher, 2001). Tourism marketers and operators may wish to emphasize culturally unique elements of a destination and provide a variety of travel information sources to appeal and attract more distant (mid- and long-haul) markets and first-time visitors and reduce the seasonality of tourism (Cuccia & Rizzo, 2011). Destinations that cater to these needs may experience increased tourism demand and a growing supply of cultural attractions. Those that do not may struggle to find a sustainable consumer base.

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BIOGRAPHY

Sean Hennessey is a Professor in the School of Business at the University of Prince Edward Island (PEI) in Canada. He is also founding Faculty Director of the Tourism Research Centre. His research interests include profiling the characteristics of visitors and their impact on destinations. He has published 14 tourism-related papers, written numerous reports, and presented to various stakeholders on this topic. He is the author of three books and has published over 20 other papers in peer-reviewed journals. He teaches in the areas of finance and business research. He can be contacted at: hennessey@upei.ca.

Dongkoo Yun is Senior Development Analyst at the Tourism Research Centre (TRC) at the School of Business at the University of PEI, an independent agency dedicated to tourism research, funded by both the provincial and federal governments. He received his PhD from the Department of Tourism Management at Kyonggi University, Seoul, Korea. He taught tourism-related courses in Korea for many years. His current research embraces the experiential aspects of tourists' consumption, and he is a specialist in analyzing and mining tourism data. He can be contacted at: dyun@upei.ca.

Roberta Macdonald is a Professor and past-Dean of the School of Business at the University of PEI. She teaches in the marketing field as well as business research and strategy. Her research interests include tourist behaviors and cultural tourism, international business marketing, and real-world management education. She has published over 30 peer-reviewed articles. Before entering academia, she worked for several national and international firms in marketing management. She can be contacted at: romacdonald@upei.ca.

HUMAN CAPITAL IN SERVICE INNOVATION STRATEGY

Gavin L. Fox, Texas Tech University
M. Todd Royle, Valdosta State University

ABSTRACT

The purpose of this research is to examine a driving force behind innovation - human capital – which we contend is useful in identifying and exploiting opportunities in both goods and services contexts. Traditional predictors of innovation, such as research and development and marketing expenditures, are based largely on physical goods literature and are not necessarily appropriate given the unique challenges inherent in services. Drawing on the literature related to human capital theory, this research proposes that investment in employees is an innovation predictor that embraces the nuances of both goods and services firms. Our results suggest that human capital investment is a stronger predictor of innovation than traditional physical goods based predictors across both goods and services contexts. For managers, the findings suggest that greater long-term investments in human capital lend themselves to greater innovation.

JEL: M31, J24

KEYWORD: Innovation, Human Capital, Resource Investments, Knowledge

INTRODUCTION

Change is ubiquitous. Those who remain inflexible and unchanging are eventually relegated to obscurity. In order to avoid this, individuals, companies, and countries alike compete to achieve first-mover advantage (i.e., the spoils awarded those who provide desired goods and services before others). This advantage may allow first entrants enhanced earnings potential and/or to gain control over resources others may not be able to match (Grant 2003, and Lieberman and Montgomery 1988).

In order to achieve first-mover advantage, entrants must innovate. In short, they must create new solutions that meet new requirements, inarticulate needs, or existing market needs. This is accomplished through creating more effective products, processes, services, technologies, or ideas (Frankelius, 2009). Indeed, companies in Booz and Company's Global Innovation 1000 (its list of the top 1000 firms in terms of investment in research and development) collectively spent over $600 billion on innovation in 2011, a 9% increase over 2010 and part of a 6% average annual increase in innovation spending between 2001 and 2011 (Jaruzelski, Loehr and Holman 2012). Those investment totals are compelling given that the total value of global trade according to the World Trade Organization (WTO) in 2011 was about $15.2 trillion USD (wto.org 2011). Put simply, these data indicated that the largest 1000 research and development (R&D) firms spent funds amounting to about 2.5% of the total value of all goods and services traded worldwide in that year on innovation.

Concomitantly, innovation is often regarded as a key component of sustainable competitive advantage (Baden-Fuller and Stopford 1994). Accordingly, organizations that successfully innovate typically experience larger profits and have more loyal customers than their less innovative counterparts (Storey and Easingwood 1999). As a result, many companies emphasize innovation in their competitive strategies. Such weight on innovation is evident in the mission statements and business values of many leading companies such as "…our No. 1 goal - helping our clients innovate…" (accenture.com 2008) and "Our goal is to carry on his legacy of innovative thinking…" (nikebiz.com 2008).

As competition in many markets intensifies and world economies continue to falter, firms are becoming more reliant on innovation efforts for basic survival (BusinessWeek 2008). Specifically, profit margins are shrinking, resource investments are under increasing scrutiny, and organizational executives are being held responsible for sound decision-making (Fairfax 2002). As a result, there is a growing need for firms to innovate in order to generate sales, while simultaneously using fewer resources. Firms have limited capital to invest in innovation and need to decide which investments yield the most sustainable results. Proper allocation of resources for innovation is, thus, a critical factor in determining a firm's longevity. Firms that ineffectively allocate and manage resources risk extinction.

Based on preliminary data, this research investigates the possibility that, despite their expense (Lemke and Lins 2012), employee retirement programs actually promote innovation. In contrast to prior research which focuses on marketing and R&D expenditures as proxies for innovation (e.g., Mairesse and Mohnen 2002, and Song and Thieme 2006, and Nijssen, Hillebrand, Vermeulen and Kemp 2006) we contend that increases in retirement spending are indicative of a good-faith, long-term, investment in employee human capital accumulation and, ultimately, innovation.

This article is organized as follows: first, we present a review of current literature in order to develop a conceptual framework wherein innovation is cast as the outcome of various strategic investments. Next, we discuss the limitations of traditional predictors, such as R&D and marketing expenditures in the context of contemporary theoretical conceptualizations. We then introduce human capital theory (Becker 1964) as a potentially valuable predictor of innovation. Next, we describe the data sources and the results of the analysis are detailed. The article concludes with a discussion of managerial and theoretical implications along with potential limitations and directions for future research.

LITERATURE REVIEW

Management of innovation becomes more critical by accelerating technological advances and changing consumer preferences (Aragón-Correa, Garcia-Morales and Cordón-Pozo 2007). For example, the environmental focus evident in directives such as "going green" and "sustainability" are becoming important innovation issues (e.g., Gunther 2008, and Mitchell 2003). As a result of changing conditions, organizations are forced to continually reinvent their offerings to remain competitive (Menor, Tatikonda and Sampson 2002). To maintain or grow profits, organizations need to continually develop and manage resources for innovation in order to appeal to existing and new customers. Specifically, such processes require attention to, integration of, and institutionalization of, new ideas and resources (Sorescu and Spanjol 2008, and van de Ven 1986).

Specifically, there is a transformation of work systems underway that compels a change from industrial to knowledge-based work systems (Kochan, Orlikowsk and Crutcher-Gershenfeld 2003). These authors note that in a knowledge-based economy, high levels of performance can only be achieved by organizing work in such a way that employees both use and deepen their skills (i.e., enhance their human capital), while simultaneously collaborating with others on multiple (often temporary) projects. Similarly, there is an increasing emphasis on diversity, and the use of cross-functional teams and task forces (Kochan et al. 2003). Ultimately, the thrust behind organizations moving toward knowledge-based systems is increased organizational flexibility and the enhanced potential for innovation (Kochan et al. 2003).

Prior research identifies research and development (R&D) and marketing as key innovation resources (e.g., Mairesse and Mohnen 2002, Song and Thieme 2006). Research and development is, thus, identified based on its support of new product development (e.g., new technologies, materials, and machinery) (Sher and Yang 2005, and Veryzer 2005). Marketing, on the other hand, is credited for its part in communicating new product rollouts (Nijssen et al., 2006). However, substantial limitations exist related to how these investments encourage innovation (particularly service innovation) (c.f., Damanpour 1991).

For example, services rarely employ R&D departments or report R&D on financial statements due to issues of intangibility (Nijssen et al. 2006). In addition, research and development and marketing are shown to be weak predictors of innovation even in physical goods industries (Evangelista, Sandven, Sirilli and Smith 1998).

Another potential driver of innovation noted in the management and economics literatures is human capital (Hitt, Bierman, Shimizu and Kochhar, 2001, and Jones and Schneider 2006, Lepak and Snell 1999, and Snow and Warren 1990). Building from prior conceptualizations of human capital (e.g., Baruch 2004), we define it as an individual's accumulation of education and new skills. Human capital is described as the cornerstone of creative thinking, knowledge generation, and innovation management (Chen and Huang 2009, and Hitt et al. 2001, and Im and Workman 2004). Accordingly, we posit that investment in human capital is a significant piece of the innovation puzzle and a quintessential component of innovation strategy.

Unfortunately, prior studies of human capital tend to limit their foci to either macro-economic issues such as the average skill base of entire nations (e.g., Jones and Schneider 2006, and Snow and Warren 1990) or micro issues such as human resource development strategies (e.g., Chen and Huang 2009; Hitt et al. 2001, and Lepak and Snell, 1999). Although such research is noteworthy, these approaches do not specifically address the role of investments in human capital at the firm level, or their potential impact on innovation. Our research attempts to fill this gap by empirically investigating the relationship between human capital investments and innovation outcomes using firm-level data. Specifically, we make preliminary assessments of the potential impacts of different resource investments on innovation. In addition, we compare the ability of human capital investments to explain innovation in service and goods firms vis-à-vis R&D and marketing investments.

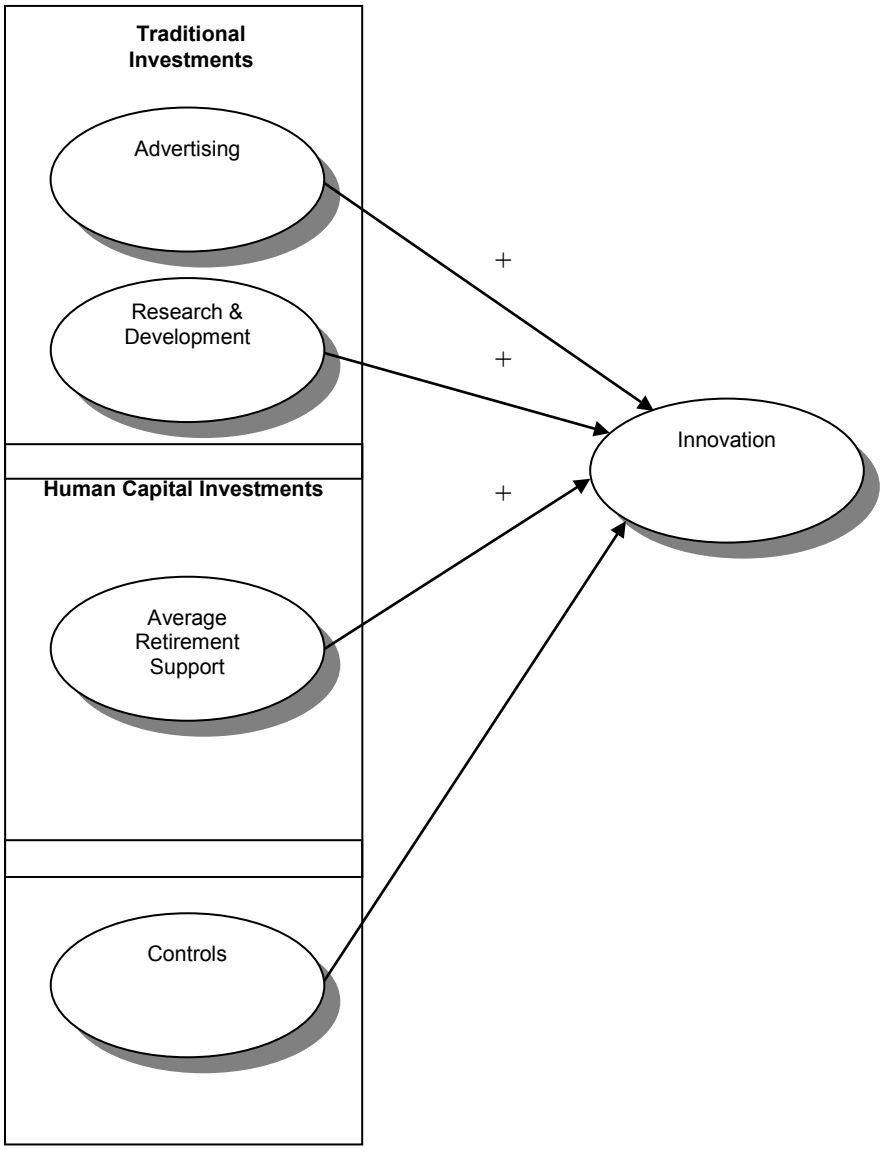
Conceptual Framework

This section describes our hypothesized relationships. The conceptual model that defines these relationships is identified in Figure 1. The innovation predictors identified on the left side of the figure lead to innovation on the right side of the figure. The first investments identified are the traditional predictors of innovation (R&D and marketing expenditures). Human capital is placed in the middle of the figure as a potentially more universal predictor of innovation. We also note control variables that may impact innovation at the bottom part of the figure.

The benefits of innovation. Innovation is an established catalyst for firm performance and competitive advantage (Madhavan and Grover 1998, and Sher and Yang 2005, and Storey and Easingwood 1999). Specifically, firms' efforts to innovate positively affect existing products, customer choice, and preferences for new products, and competitive market dynamics (King and Tucci 2002). Thus, we expect innovation to bolster long-term performance by increasing profit margins, generating customer loyalty, and limiting competitive entry into markets (Ferguson and Hlavinka 2007).

Existing products primarily benefit from innovation in complementary product categories that create resurgent demand for established products. For example, advances in computer memory, processor speed, and software cause computers to obsolesce at rapid rates, creating a constantly renewing cycle of demand for new computers (Whelan 2002). Further, innovation aids existing products through updates that prolong product lifecycles and stave off product declines (Berenson and Mohr-Jackson 1994). For instance, beer producers continue to update packaging (e.g., aluminum bottles, temperature indicating labels, and carbon dioxide distribution systems) despite the product's existence for thousands of years. Such innovations can sustain or even rejuvenate brand image, motivate current customers to increase consumption patterns, or increase positive word-of-mouth (King and Tucci, 2002).

Figure 1: Conceptual Model of Human Capital versus Traditional Investments



This is a model of the relationships among human capital support and traditional innovation predictors such as advertising and R&D. The proposed model contends that there is a direct positive relationship between the predictors and innovation.

In addition to existing customers, innovation draws new customers to firms and simultaneously could diminish the customer bases of competitors (Storey and Easingwood 1999). New customers increase market share and aid in generating economies of scale, as relative costs often decrease substantially as a function of the number of product adopters (Jovanovic and MacDonald 1994). Further, such actions also pave the way for future products by reducing the effort required to position a product and induce trial (Jovanovic and MacDonald 1994).

In summary, innovation translates into substantial advantages in the marketplace. Specifically, innovation creates new markets, reenergizes existing markets, and provides competitive differentiation in both goods and services. These advantages justify such strategies as price skimming and image pricing, which generate increased profits (Garrido-Rubio and Polo-Redondo 2005). To achieve these advantages,

managers need to understand what resource investments to make in order to optimize innovation efforts. In line with our research objectives, the next two sections discuss resource investments for innovation.

Traditional resource investments. Marketing and R&D expenditures are identified (see Figure 2.1) as traditional resource investments that lead to innovation (Bruce and Cooper 1997, p. 20, and Sher and Yang 2005, and Veryzer 2005). Definitions of innovation vary. For example, Lumpkin and Dess (1996, p. 142) call it "…a firm's tendency to engage in and support new ideas, experimentation, and creativity for the development of new processes." Others emphasize the importance of organizational support for innovation vis-à-vis investments in such resources. As a result, the physical goods literature suggests that R&D and marketing expenditures positively relate to innovation (e.g., Veryzer 2005).

Unsurprisingly, innovative firms typically invest more in R&D than do their less innovative peers (Sher and Yang 2005, and Veryzer 2005). Concomitantly, such investments often increase due to the need to procure new materials and equipment for product development (Wouters, Anderson, Narus, and Wynstra 2009). New items frequently incur greater costs as component procurement and production initially lack economies of scale (Wouters et al. 2009). Innovative firms also invest a great deal in prototyping, which generates large amounts of waste until production processes are honed for the final product (Wheelwright and Clark 1992).

The impacts of innovation continue to be extolled in trade publications such as BusinessWeek (e.g., BusinessWeek, April 28, 2008). For example, Google's CEO suggests that innovative firms invest heavily in R&D spending even during recessions (BusinessWeek, April 28, 2008). This statement is validated by a 72 percent increase in R&D spending at Google in 2007 despite a declining economy (BusinessWeek, April 28, 2008). Such statements and actions are typical of firms that stress innovation as a key competitive activity.

In addition to R&D, marketing expenditures are typically higher for innovative firms, as new products require more intense marketing efforts to support initial rollouts (Bruce and Cooper 1997, p. 20). Specifically, marketing expenses tend to rise as the number of new products increases. This is a result of continual efforts to build customer awareness and knowledge about new products. The costs of such efforts can be substantial for innovations due to customers' lack of familiarity with new product features, advantages, and uses (Karniouchina, Victorino, and Verma 2006). In other words, marketing communications intensify as firms position new products and try to persuade new customers to recurrently buy these items. These efforts reduce the benefits that normally accrue from economies of scale as firms update their messages to stay consistent with new competitive offerings (Nijssen et al. 2006).

Despite the noted advantages of R&D and marketing expense as innovation predictors, each has several disadvantages. First, most of the literature regarding R&D and marketing effects is based on physical goods innovation (Lilien, Kotler and Moorthy 1992). As academics and practitioners begin to focus more heavily on services, the impact of service idiosyncrasies such as heterogeneity, intangibility, perishability, and simultaneity calls into question the transferability of knowledge related to physical goods innovation to services (Nijssen et al. 2006). Second, R&D and marketing often are identified in the literature as weak predictors of innovation because such investments do not always lead to desired outcomes (Damanpour 1991, and Evangelista et al. 1998, and Nijssen et al. 2006).

This is particularly true in services where R&D investments rarely are reported on financial statements and marketing success may be more a result of word-of-mouth than of formal marketing efforts (Nijssen et al. 2006). Third, both goods and services firms rely on human capital to transform investments into innovative outcomes. Such reliance on human capital suggests that investments in employees are perhaps better predictors of innovation than R&D and marketing expenditures. To expand the field's

understanding beyond existing innovation predictors, our research suggests that human capital investments represent a potentially powerful predictor of innovation.

The role of human capital in innovation**.** According to Becker's (1962, 1964) human capital theory, those having more job specific resources (e.g., training and education) should receive more organizational rewards (e.g., promotions and higher pay). Additionally, investment in human capital, both by individuals and organizations, is undertaken primarily to enhance performance (Becker 1962). Employees are seen as a firm resource, much like financial capital, that can be strategically deployed to achieve objectives (Barney 1991, and Hitt et al. 2001). As with financial capital, greater human capital is thought to be beneficial to firms (Lepak and Snell 1999). Unlike financial capital, however, human capital is an abstract concept referring primarily to intangible skills and knowledge (Jones and Schneider 2006). The value of employees in innovation efforts is reflected in the returns firms earn on innovation as a result of investments in human capital (Shrader and Siegel 2007). That is, employees with better skills and knowledge are more likely to effectively develop and implement innovations (e.g., Siegel, Waldman and Youngdahl 1997). Further, human capital theory (Becker 1962, 1964) states that firms compensate employees for the value their skills return to the firm (Lepak and Snell 1999).

Human capital research focuses on identifying and assessing skills that benefit firms (e.g., Jones and Schneider 2006, and Kessler and Lülfesmann 2006). Specifically, unique and valuable skills are suggested to foster performance and competitive advantage (Kessler and Lülfesmann 2006, and Lepak and Snell 1999). Skills such as opportunity recognition, creative idea generation, problem solving, and risk coping are identified as the lifeblood of innovation (Chen and Huang 2009, and Madsen and Ulhøi 2005). These skills allow employees to contend with the relatively high levels of uncertainty inherent in innovation processes (Nijssenet al. 2006). Further, lack of skill and experience is designated as a key barrier to product development and financial success (Drew 1995). Such findings are identified from entry-level employees to top executives (Buchholtz, Ribbens and Houle 2003) and highlight the potential value of human capital to innovation.

In addition to skills, employee knowledge drives innovation (Becker 1964, and Lepak and Snell 1999). According to the knowledge-based view of the firm, knowledge is a renewable resource that employees acquire through formal education and "on-the-job" socialization and training (Grant 2003, and Hitt et al. 2001). Employees combine these forms of knowledge and adapt them in order to respond to ever-changing business problems (Leonard and Sensiper 1998).

Knowledge, like skill, is shown to benefit innovation by increasing opportunity recognition and problem solving, while limiting the ability of competitors to duplicate it (Becker 1964, and Chen and Huang 2009, and Hansen 1999, and Hitt et al. 2001, and Leonard and Sensiper 1998). Such capabilities lead to lower costs, enhanced product offerings, and competitive differentiation (Carmona-Lavado, Cuevas-Rodriquez and Cabello-Medina 2010). Further, knowledge often lends itself to innovation by being firm specific and socially complex, thus reducing its potential for mobility to other firms (Chen and Huang 2009).

Benefits derived from human capital, whether in services or physical goods markets, typically are not without costs. That is, they are exchanged for other resources (Becker 1962). For example, firms exchange financial resources (e.g., employee compensation and training opportunities) for the knowledge created and acquired by its employees (Becker 1962, 1964). If either party fails to uphold its obligation in the exchange, the quality of the relationship suffers or ceases entirely. Employees typically refuse to work for less compensation than their perceived relative worth (Lepak and Snell 1999, and Ployhart, Weekley and Baughman 2006). Additionally, firms do not usually provide superior compensation in exchange for substandard performance (Becker 1962, and Ployhart et al. 2006). Exceptions to this rule undoubtedly exist, but both firms and employees generally seek equity in their exchanges (Adams 1965).

Equity theory (Adams 1965) assumes employees are motivated to balance their perceived organizational inputs (e.g., work effort) versus outcomes (e.g., pay). According to this theory, employees refer to others in their organizations to determine if they are being treated fairly and paid based on what they see others receiving. If employees believe that they work too hard to be making what they do, they feel negative inequity (Adams 1965). These employees are, thus, motivated to eliminate this unpleasant feeling and restore balance. The behaviors that they may subsequently engage in have implications for innovation. For example, they may reduce the level and persistence in their tasks, they may seek other employment, and they might engage in counterproductive work behaviors (e.g., employee theft) (Adams 1965). Such reactions are feckless and inhibit organizational innovation.

According to human capital theory, it is imperative to properly compensate individuals for skills and knowledge that contribute to innovation (Becker 1962). For firms seeking innovation, compensation should be designed specifically to engender creativity, problem solving, and risk taking (Chen and Huang, 2009, and Delery and Doty 1996). A large amount of research suggests that retirement plans (e.g., 401(k), Roth 401(k), and pensions) are among the most important forms of compensation for recruiting, retaining, and motivating quality employees (e.g., Coronado, Mitchell, Sharpe and Nesbitt 2008, and Gough and Hick 2009, and Loretto, White and Duncan 2000). Such retirement plans represent compensation above-and-beyond basic wages and typically receive some subsidy from firms rather than by employees alone (Loretto et al. 2000). As a result, companies offering these plans are seen as caring and as fulfilling their psychological contracts – unspoken promises not articulated in the fine print of an employment contract which relate to expectations about what employees are expected to give and what they get in return (Baruch 2004) – with their employees.

Companies seek to link the managed risk taking necessary to innovate with pay structures, bonuses, recognition and career progression (Anthony, Johnson, Sinfield and Altman 2008). Managers should also create developmental paths with high potential for employees to spend time on promising innovative opportunities (Anthony et al., 2008 and Cascio, Mariadoss and Mouri 2010). These actions deepen the psychological contracts related to compensation and continuity. If firms do not attend to such contracts, firm performance declines. Organizations that fail to address these unwritten expectations would expect lower employee involvement and commitment, higher turnover – both voluntary and involuntary, higher HR costs, and, ultimately, impaired innovative capabilities (Baruch 1998). Employee retirement plans help reduce the risk of this happening because they both specify what employees will receive for their contributions to the firm and connote tenure and job security.

Unfortunately, given the dire consequences associated with shrinking resource availability, many firms are emphasizing cost-cutting strategies instead of growth strategies, whereby resource investments are reduced (BusinessWeek, 2008). A key area in which firms are seeking to trim excess cost is in human capital investments. Specifically, employee retirement plans are being cut out of compensation packages in order to reduce financial burdens (Golding 2008).

Cutting such plans reduces employee motivation and loyalty and increases turnover (Golding, 2008). For example, some of the most under-funded plans belong to airlines, while better-funded plans exist in the financial services and public sectors (Lachance, Mitchell and Smetters 2003). The discrepancy in employee retirement plans is coupled with noted praise in the marketplace for financial service innovations (Gentle 2007) and rebuke for a lack of innovation in airlines (Kochan, von Nordenflyht, McKersie and Gittell 2005). Emphasizing cost cutting over growth often leads to efficiency, but not necessarily to effectiveness (Byrne, Lubowe and Blitz 2007). Short-term benefits associated with cutting human capital costs, therefore, may reduce a firm's ability to innovate and cause it to mortgage its long-term survivability in favor of meeting immediate performance demands.

Unfortunately, employee retirement plans are not as common as they used to be given the burden placed on employers to provide the annuity stream due employees or to absorb additional short-term costs. However, there is evidence that even in highly competitive and cost-conscious economic environments, such plans are still a desirable attribute for companies wishing to attract and retain high quality employees. For example, Ippolito (1991) notes that evidence supports assertions that employee retirement plans such as pensions do not promote wage-tilt (being paid less early in employment and more towards the end of a career with a firm irrespective of achievement and tenure). This, of course, makes hiring and retaining newer employees simpler and more attractive to them as well as reducing aggregate levels of dissatisfaction (Ippolito 1991).

Similarly, some organizations that moved from a defined benefit program (e.g., pension) to a defined contribution (e.g., 401(k)) have found employees prefer the pension and are willing to buy it back. By paying an upfront fee and commuting the 401(k) back to a pension, employees believe (rightfully) that if the buy-back price falls below the benefit level at the time of exercise that they may, in fact, enjoy a financial windfall. In addition, this benefit comes to them without the amount of market volatility that accompanies savings invested in defined contribution plans (Lachance et al. 2003).

Advantages of human capital over traditional predictors. Investments in human capital have several advantages over traditional innovation drivers such as those in R&D and marketing. First, people are critical, yet often overlooked, drivers of innovation in both goods and services (Lepak and Snell 1999). All organizations rely on some amount of human activity in order to deliver services and produce physical goods, thereby placing a substantial burden for success in the hands of employees (van de Ven 1986). This suggests a labor-intensive view of innovation and indicates that firms should account for organizational factors such as employee compensation when seeking innovation (Srinivasan, Lilien and Rangaswamy 2002). Indeed, internalization theory (Graham 1978) suggests that firms innovate by investing in their own knowledge and technologies (i.e., those known and managed by employees). It further contends that superior returns on investments made in employees may occur if such innovation and investment is not licensed across firms or borders, but instead is used as the basis for acquiring subsidiaries.

Human capital is a primary means through which firms achieve goals (Chen and Huang 2009). More specifically, innovation depends on the knowledge and expertise of employees to translate investments into outcomes (Cho and Chang 2008). Capabilities that bolster innovation are necessarily complex and result from deliberate actions by educated and experienced workers with a desire to perform innovative actions (Becker 1964, and Chen and Huang 2009).

Second, human capital investments are potentially more universally applicable than other investments. Specifically, innovation drivers (resource investments) have not been updated adequately to account for the aforementioned service idiosyncrasies that may render established predictors ineffective. Further, R&D and marketing investments are much less pronounced and much less stable predictors of innovation, particularly in services (Damanpour 1991, and Evangelista et al. 1998, and Nijssen et al. 2006). However, capable personnel are universally identified as key ingredients in innovation irrespective of industry (Hitt et al. 2001, and Jones and Schneider 2006, and Lepak and Snell 1999, and Snow and Warren 1990).

DATA AND METHODOLOGY

Data Sources and Sample

The data set is constructed from two sources (COMPUSTAT and *Fortune's* Most Admired Companies) for the years 2005-2008. COMPUSTAT is a Standard & Poor's database containing financial data for

over 45 years and more than 28,000 companies. The *Fortune* rankings are generated each year by the Hay Group and are part of *Fortune's* Most Admired Companies list. To arrive at the list, the Hay Group surveys over 16,000 executives, directors, and financial analysts in over 65 industries about Fortune 1,000 companies. The final sample includes 251 goods firms (e.g., Nike, General Mills, Texas Instruments, and Mattel) and 367 service firms (e.g., Marriott, Google, Accenture, and eBay) representing over 50 industries that could be matched between the databases in the available years. Companies ranged in number of employees from approximately 1,000 to 200,000 with a median value of 6,000. In addition, retirement support ranged from -$867 million (in which case the company not only eliminated, but absorbed the existing retirement support) to $7.9 billion with a median value of just under $1 million. The advantage of a wide range of organizations and industries is in the ability to generalize the findings.

Secondary data sources are utilized here for an important reason. Specifically, secondary data sources provide access to a wide array of information, which promotes generalizability. Further, *Fortune* rankings and COMPUSTAT data are utilized in a variety of prior finance, management, and marketing research and are suggested to be valid measures of firm characteristics (e.g., Brammer, Brooks and Pavelin 2006, and Wiles 2007). For example, Brammer and colleagues (2006) assess the link between social responsibility via *Fortune* rankings and stock returns. Their findings indicate that social responsibility and financial performance are negatively related. In addition, Wiles (2007) utilizes *Fortune's* Most Admired Companies data and COMPUSTAT data to examine the relationship between customer service and retail shareholder wealth. His findings suggest that firms benefit from customer service initiatives.

In this study, data on human capital, R&D, and marketing expenditures are regressed upon innovation rankings, while controlling for firm size, prior performance, and goods versus services industry. Each component of the regression is discussed in greater detail below. The variables, their operationalizations, and data sources are summarized in Table 1.

Table 1: Variables and Data Sources

Conceptual Variable	Measured Variable	Data Source
Dependent Variable		
Innovation	Average industry ranking from industry experts	*Fortune's* M.A.C.
Human Capital Variable		
Employee Retirement Plan Support	Average retirement support standardized by industry	COMPUSTAT
Other Predictor Variables		
R&D	Research and development expenditures standardized by industry	COMPUSTAT
Advertising	Advertising expenditures standardized by industry	COMPUSTAT
Control Variables		
Firm Size	Natural Logarithm of total assets	COMPUSTAT
Performance	Natural Logarithm of Tobin's Q	COMPUSTAT
Goods or Services Industry	Goods = 0; Service = 1	*Fortune's* M.A.C.

M.A.C. = Most Admired Companies. The panels of this table show the sources and forms of the data used in the regression analysis.

Operationalization of Variables

Variable transformations. Operational variables often exhibit heavy skewness (violating the assumption of normality) and therefore need to be normalized (Gruca and Rego 2005). For example, the number of small firms is typically much greater than the number of large firms, causing the statistical distribution to be skewed toward low values for size. Normalizing the variables reduces the extent to which outliers with high values impact the results. The total assets, employee retirement expenditures, R&D expenditures, marketing expenditures, and Tobin's Q data for this study are no different. Thus, each is transformed via natural log function (e.g., Luo and Bhattacharya 2006). Further, as innovation is scored from 1 to 11 (highest to lowest), the scores of the predictor and control variables are reversed (i.e., multiplied by –1) so that higher scores have lower values (numbers).

In addition, innovation efforts themselves may differ by industry. For example, semiconductors are likely considered to be more innovative than job placement services. Therefore, it is also useful to account for potential industry differences (Zenkin and Dolya 2007). The *Fortune* data, however, do not account for these relative differences. Predictor and control variables are therefore standardized within each industry. Specifically, the industry mean for the variable is subtracted from each observed value in the industry and is then divided by the standard error for the variable in each industry. This transformation makes each firm's values relative to others in its industry, which is similar to the measure of innovation. In other words, industry standardization allows industries with very different market dynamics to be directly compared.

Innovation. Consistent with prior research (e.g., Luo and Bhattacharya 2006), industry rankings from *Fortune* are used to operationalize innovation. The database provides rankings from 1 to 11 (highest to lowest) for firms within each industry based on survey results provided by industry experts. Innovation therefore begins as a latent construct created from expert opinions and is transformed into industry rankings.

R&D investments. In this research, firms' R&D investments are operationalized through R&D expenditures (e.g., Gruca and Rego 2005, and Luo and Bhattacharya 2006). Such expenditures serve as proxies of firms' commitments to research, and accordingly, to innovation. Data on R&D expenditures are collected from COMPUSTAT.

Marketing investments. Firms' investments in marketing are operationalized via their advertising expenditures (e.g., Zenkin and Dolya 2007). Although marketing encompasses much more than advertising, advertising expenditure, as measured by COMPUSTAT, has advantages as a proxy measure for marketing investments. For example, COMPUSTAT data typically include marketing expenditures beyond what is specifically spent on advertising initiatives (Zenkin and Dolya 2007). In addition, promotional expenditures of any sort indicate a firm's level of commitment to marketing efforts (Luo and Bhattacharya 2006).

Human capital investments. Following suggestions from prior research (e.g., Chou 2007), relative annual employee retirement expense is used as the measure of human capital investments. Employee retirement expenses are selected for analysis over payroll expense for one key reason – they represent compensation above-and-beyond regular wages/salaries. Thus, these expenses are likely stronger indicators of firms' commitments to human capital accumulation and retention than simply noting levels of pay (Coronado et al. 2008, and Gough and Hick 2009, and Loretto, White and Duncan 2000).

Control variables. Control variables are included in the model to create better estimates of the research variables' contributions. Specifically, control variables remove explained variance in the research variables resulting from related factors. For example, larger firms are likely to have larger R&D budgets

than small firms. Thus, including firm size as a control removes any explanatory power from R&D that is truly the result of firm size rather than the R&D spending itself. Control variables, therefore, allow for a more pure assessment of the explanatory power of the research variables.

Consistent with prior strategic research, we control for firm size, performance, and industry (e.g., Luo and Bhattacharya 2006). Total assets are employed as a proxy for firm size, as they represent physical parts of firms that are not easily liquidated (Luo and Battacharya 2006). Firm size is controlled because larger firms are likely to have greater resources and therefore economies of scale when seeking innovation (Cohen and Klepper 1996, and Luo and Bhattacharya 2006). The total asset data are collected from COMPUSTAT. In addition to firm size, better performing firms are also expected to have more resources for innovation (Cohen and Klepper 1996). Prior performance vis-à-vis Tobin's Q is also controlled in the model. Finally, industries are categorized as either goods (0) or services (1) to highlight any potential industry differences in the data or other variables. A combination of *Fortune's* industry categories and Standard Industrial Classification codes from COMPUSTAT are used to classify firms as goods or services.

RESULTS AND DISCUSSION

Data Analysis

Descriptive statistics. The descriptive statistics for the dependent, independent, and control variables are provided in Table 2. Low median values for employee compensation ($Median_{2005}$ = \$41,400; $Median_{2006}$ = \$47,610) and negative minimums (Min_{2005} = -\$973,000; Min_{2006} = -\$714,000) support the notion that firms are reducing and eliminating employee retirement expenditures. Negative retirement minimums are indicative of reductions in support (e.g., firms removing money from pensions). Despite having a data set composed strictly of *Fortune* 1000 firms, there is still a wide range of firm sizes, R&D and marketing investments, and performance levels represented. Having a wide range of firms represented in the data enhances the generalizability of the results.

Table 2: Descriptive Statistics

Variable	Mean	SD	Min	Median	Max	Skewness
Dependent Variable						
Innovation 2006	5.09	2.77	1	5	10	0.173
Innovation 2007	5.17	2.77	1	5	10	0.126
Tradition Investment Variables						
Advertising 2005[a]	533.44	1,015.45	0.50	158.12	5,919.82	3.47
Advertising 2006[a]	549.79	1,052.28	0.70	156.46	6,866.40	3.77
R&D 2005[a]	676.96	1,527.79	0	103.00	9,094.00	3.23
R&D 2006[a]	732.64	1,459.37	0	112.99	8,258.00	2.98
Human Capital Variable						
Average Retirement Expense 2005[a]	138.43	298.92	-973.00	41.40	2,496.00	3.96
Average Retirement Expense 2006[a]	166.68	451.90	-714.00	47.61	4,939.70	6.72
Control Variables						
Total Assets 2005[a]	54,320	146,808	363	7,747	1,494,037	6.18
Total Assets 2006[a]	48,721	122,460	208	10,154	1,632,104	4.74
Tobin's Q 2005	1.49	4.63	0.003	0.86	101.25	18.19
Tobin's Q 2006	1.98	6.44	0.001	0.91	210.62	16.87

[a]*: thousands The panels of this table show the descriptive statistics for the data used in the regression analysis.*

Determinants of innovation. The results of the hierarchical regression are provided in Table 3. There is a lack of significance in the goods versus services control (β = .01, p > .46), which suggests a lack of

industry difference in the results. Research and development (β = .08, $p < .05$) and marketing (β = .11, $p < .01$) are significantly related to innovation when initially introduced into the model. These findings support prior research identifying the value of such metrics in predicting innovation. Despite each variable's significance, resulting gains in explanatory power beyond that of the control variables is relatively modest ($\Delta R^2_{step\ 2} = .006$, $p < .05$; $\Delta R^2_{step\ 2} = .011$, $p < .01$). Adding the human capital investments to the model nearly doubles the explanatory power ($\Delta R^2_{step\ 3} = .057$, $p < .001$). Further, human capital investments are shown to be positive predictors of innovation (β = .25, $p < .001$), which supports the notion that investing in employees is a valuable part of fostering innovation. The ultimate explanatory power of the model with all variables entered ($R^2 = .131$) is consistent with other research findings in corporate strategy and innovation (c.f., Brush and Bromiley 1997).

The following regression equation is used to estimate the determinants of innovation:

$$Inn = \beta_0 + \beta_1 TA + \beta_2 TQ + \beta_3 GS + \beta_4 RD + \beta_5 Ad + \beta_6 HCI \quad (1)$$

Table 3: Hierarchical Regression Analysis

Variable	Step 1 (Controls)	Step 2 (R&D)	Step 3 (Advertising)	Step 4 (Average Retirement Support)
Total Assets	0.06	0.04	0.04	0.00
Tobin's Q	0.23***	0.23***	0.23***	0.26***
GS	0.01	0.03	0.03	0.01
R&D		0.08*	0.06	0.02
Advertising			0.11**	0.09*
Average Retirement Support				0.25***
R^2	0.053	0.059	0.070	0.127
Change in R^2	0.053***	0.006*	0.011**	0.057***

*The panels of this table show a stepwise regression, wherein predictor variables are added sequentially beyond initial controls. The results suggest that the inclusion of Average Retirement Support diminishes the importance of R&D and Marketing in predicting innovation and provides the largest explanatory power of the predictor variables that extend beyond the controls. Standardized betas are shown, GS = Good or Service. Significance levels are indicated as follows * p < 0.05, ** p < 0.01, *** p < .001*

Managerial Implications

Our results have considerable relevance to practitioners in both goods and service sectors. Specifically, the findings suggest that firms competing on innovation should invest heavily in human capital (e.g., training, pay, and supplemental employee support) to entice, retain, and benefit from high quality employees. As companies continue to shrink and eliminate employee retirement support and other employment perks, the ability to maintain such benefits becomes rare, valuable, and not easily imitated (Barney 1991). Hence, investments in human capital represent a competitive advantage for firms. Further, the similarity of results across both goods and services industries implies that, irrespective of industry, managers need to recognize the importance of people in innovation efforts.

Managers also are cautioned to prevent overemphasizing research and development and marketing spending at the expense of employee support. A great deal of business and academic literature espouses the benefits of each in successful innovation, while ignoring other potential explanations such as human capital. This limited focus, unfortunately, fails to recognize the underlying reality that firms require high quality employees to generate innovation. Losing quality personnel as a function of poor compensation is expected to render innovation efforts less effective. Practitioners, therefore, are advised to seek greater balance between investments in human capital, research and development, and marketing.

Theoretical Implications

Human capital theory has a rich tradition in a variety of fields such as strategic management, organizational behavior, sociology, and economics (Becker 1964). However, many other research streams (e.g., innovation, services, and personal selling) which rely heavily on humans, have yet to give serious consideration to the importance of human capital investment. Researchers in these areas need to make greater strides toward adopting and adapting human capital theory to address innovation.

This research makes initial inroads into the theoretical bases of human capital accumulation as they pertain to innovation. Specifically, human capital investments are shown to generate superior innovation irrespective of industry. This finding is important to researchers, as it identifies a new, powerful, and more universal innovation driver than previously conceived. In addition, establishing the effectiveness of human capital as an innovation driver provides evidence for the importance of human capital theory (Becker 1962) to research and practice.

Limitations and Future Research

The research has several potential limitations. First, we measure human capital, organizational innovation, and organizational performance at an industry level. Such a perspective lends itself well to generalizability, as a multitude of different firms are included in the sample from both goods and services industries. Unfortunately, it also limits the extent to which more specific nuances of knowledge creation and usage can be assessed, as such analyses require information from inside firms (e.g., surveys of employees and managers). The current study provides a broad theoretic perspective, which aids in the generalizability of future research conducted in micro scale. Specifically, our research findings represent industry-wide (i.e., macro scale) support for the importance of human capital investments in innovation.

A firm can utilize differences in human capital expenditures to gauge its innovation efforts versus key competitors. However, it might be useful to know what combination of human capital, R&D, and marketing investments are an optimal mix for firms within given industries and what other firm-specific characteristics impact such calculations. For example, the extent of product customization, industry maturity, the extent of internationalization, and the average skill level of the labor pool may impact the ability of resources to be deployed. As a result, certain resources may become more important than others.

The variables selected for this study represent a second potential limitation. Despite the aggregate of the *Fortune* innovation rankings, they represent only one measure of innovation. Further, the measure is from an industry expert perspective rather than from an end user's perspective. Differences may exist when alternative sources are used for gauging innovation. Currently, *Fortune* represents one of the only widely available and known multi-industry set of innovation rankings. Similar research should use new measures of innovation as they become accepted. Despite this limitation, *Fortune's* Most Admired Companies list is recognized, respected, and utilized in both industry and academic research.

Classifying firms as goods or services via SIC code represents a final potential limitation in this research. While SIC codes are a valuable means of classification, firms may have multiple business units that include both goods and services. As a result, the primary SIC code identified for each company may not effectively distinguish goods from service firms. Future research should investigate alternative classification schema and revisit the potential similarities between goods and service firms posed in this research.

CONCLUDING COMMENTS

The objective of this research was to examine the value of human capital as a predictor of innovation. More specifically, this research assessed the relative importance of human capital investments versus traditional investments in R&D and marketing. The research results suggest that human capital investments are powerful predictors of innovation. In addition, the results suggest that they provide a better, more universal explanation for innovation than traditional predictors. The effects are consistently positive across both goods and services industries.

Our sample consisted of 251 goods firms and 367 service firms that could be matched between the databases of COMPUSTAT and *Fortune* magazines. We used regression analysis to explain human capital investment's impact on innovation. Our findings indicated that, although significant, investment in R&D and marketing were not the potent in predictors of innovation that prior research contended (Mairesse and Mohnen 2002, and Song and Thieme2006, and Nijssen et al. 2006). Our findings suggested by adding human capital investment to the analysis that the variance explained by our model nearly doubled.

There are important theoretical and managerial implications from this work to consider. For example, theory is expanded by demonstrating that human capital investments are shown to generate superior innovation irrespective of industry. The primary managerial implications are straightforward: firms would be better served to invest more in developing employees and binding them to the organization by increasing retirement benefits and limiting excessive spending on both research and development as well as marketing.

Naturally, limitations to our findings exist. For example, measuring innovation at the industry level might overlook the intricacies of knowledge creation and its use within specific firms. Further, simply understanding that increasing human capital spending enhances innovation does not help firms actually strike the necessary balance between properly funding R&D, sales, and retirement investment. Future research should attempt to determine what that optimal ratio is.

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BIOGRAPHY

Gavin L. Fox (Ph.D. Florida State University), corresponding author, is an assistant professor of marketing at Texas Tech University. He specializes in strategic marketing issues such as the impact of human capital and inter-firm relationships on firm performance. Dr. Fox also focuses heavily on service issues such as the impact of failures on customer retention and the interplay between service workers and customers. Correspondence can be directed to Dr. Fox at the Rawls College of Business Texas Tech University Lubbock, TX 79410 Phone: (806) 834-3432 Fax: (806) 742-2199 or Email: gavin.fox@ttu.edu

M. Todd Royle (Ph.D. Florida State University) is an associate professor of management and international business at Valdosta State University. He teaches courses in organizational behavior, international business, human resource management and career development. His main research interests relate to accountability, culture and organizational politics. Correspondence can be directed to Dr. Royle at the Langdale College of Business Valdosta State University Valdosta, GA 31698 Phone: (229) 245-3875 Fax: (229) 249-2706 or Email: mtroyle@valdosta.edu

THE IMPACT OF ENTERPRISE SYSTEMS ON SMALL AND MEDIUM-SIZED ENTERPRISES IN THE KINGDOM OF BAHRAIN

Sekhar Muni Amba, New York Institute of Technology
Hussain Abdulla, New York Institute of Technology

ABSTRACT

The study explored the benefits of Enterprise Resource Planning systems to small and medium enterprises in the Kingdom of Bahrain on improvement in decision-making ability, employee performance monitoring, resource management, cost reductions, cycle time reductions and organizational benefits empowerment and achievement. Data collected through survey questionnaire from 48 SME's, of which 36 had implemented Enterprise System. The study found significant positive relationship between ERP implementation and improved decision-making ability, improved employee performance monitoring, the achievement of cost reductions and the achievement of cycle time reductions improved decision-making and performance monitoring. Thus, it is perceived, a wider adoption of Enterprise Systems by SME's in Bahrain can help them to expand and achieve business growth, thus contribute to the economic growth of Bahrain, in line with the ambitious goals of the Bahrain's economic vision 2030.

JEL: N85, Q55

KEYWORDS: ERP, SME, Bahrain Vision 2030, Bahrain

INTRODUCTION

Small and medium-sized enterprises (SME's) are a diverse group of businesses, active in various sectors and using varying levels of skill and technology (Lukacs, 2005). From a statistical point of view, the definition of SME's varies from country to country, and the definition is usually around criteria of number of employees, annual turnover or balance sheet size. The most commonly used criterion is number of employees, as it is the most readily available metric. For instance, the EU countries collectively define SME's as having fewer than 250 employees (European Commission, 2005), while the US defines SME's as having fewer than 500 employees (United States Small Business Administration, 2011). In Bahrain, the SME definition closely mirrors that of the EU, with businesses employing 11 to 250 employees defined as SME's (Ministry of Industry and Commerce, 2010). It is worth noting that the EU and US definition of SME's does not impose of lower limit on number of employees, as opposed to Bahrain, where any enterprise with 10 or fewer employees is classified as a microenterprise.

The contribution and importance of SME's in economic development has been recognized since the mid-20th century, as evidenced by the establishment of SME agencies and targeted policies by governments, such as in Japan in 1948, in the US in 1953 and India in 1954 (Organization for Economic Co-operation and Development (OECD), 2000). To quantify their contribution to the economy, a useful metric is SME's contribution to Gross Domestic Product (GDP). On a global level the contribution of SME's to a country's GDP varies from 16% in low-income economies to 51% in high-income economies (Ayyagari, Beck, and Demirgüç-Kunt, 2005). At the level of the Middle East and North Africa region, SME's are estimated to contribute 28% of GDP and represent 71% of private sector employment. SME's in Bahrain represent over 99% of active companies, they were responsible for 73% of private sector employment and they accounted for 28% of Bahrain's GDP (Dubai Media Incorporated, 2011).

Enterprise Systems were originally designed to integrate fragmented information in large enterprises that maintained separate information systems for their various functions and store large amounts of data. Before the introduction of Enterprise Systems this data was stored in various computer systems in their respective business units, geographic locations, factories or offices causing problems and inefficiencies due to lack of integration of various business functions. Enterprise Systems, also referred to as Enterprise Resource Planning Systems ("ERP Systems"), are software systems that integrates all functions and processes of a business, encompassing finance, accounting, human resources, supply chain management, inventory control, sales and logistics. The modular nature of an Enterprise System means that a company can choose which module it would like to implement. For SME's, the Enterprise System used by large enterprises would most likely be unsuitable, as certain functions of an SME would not benefit from an Enterprise System due to their smaller size and the nature of their business. Through streamlining data flows and processes across various functions, Enterprise Systems can provide a range of productivity gains and benefits and can give executive management almost immediate access to real-time operating information. A few of examples of productivity gains by large enterprises that adopted Enterprises Systems are listed in Table 1 below (Seddon, and Shang, 2000).

Table 1: Example of Productivity Gains Achieved through adopting Enterprise Systems

Company	Process	Time Requirement Before ERP	After ERP
IBM	Reprising of all products	5 days	5 minutes
	Part shipments	22 days	3 days
Fujitsu Microelectronics	Order cycle	18 days	1.5 days
	Financial closing	8 days	4 days

Table 1 shows effectiveness of ERP in two hi-tech firms

It is generally agreed that SME's are a key component of economic growth and are a significant source of employment (Ayyagari et al, 2005). Across the globe, the governments of both developed and developing countries recognize the importance of SME's and have taken various measures to support their growth (OECD, 2000).The government of Bahrain have recognized the importance of SME's to economic growth, and as such has developed several institutions to support SMEs, most importantly Tamkeen , which has developed several programs to support SME development (Tamkeen Annual Report, 2011), and Bahrain Development Bank, which provides financing to SME's (Bahrain Development Bank Annual Report, 2011). At the GCC Future Entrepreneurs Forum held in 2012, the Chairman of the Bahrain Development Bank, Sh. Mohammed bin Essa, summed up the economic and social importance of SME's to Bahrain, stating that: "The development of Small and Medium Enterprises sector and the support and encouragement of entrepreneurship will contribute to the expansion of the middle income earners in all societies maintaining economic and social stability. "Hence, this study is significant to the government of Bahrain, and especially for Tamkeen (Bahrain Labor Fund) and Bahrain Development Bank, as it provides some recommendations on how to further support the growth of SME's in Bahrain. This paper is organized into five sections: Introduction, Literature review, Data &Methodology, Data Analysis & Results, and Conclusion & Recommendations.

LITERATURE REVIEW

While there is extensive literature on the benefits of Enterprise Systems to large enterprises, as they were the first to implement such systems, the research on their benefits to SME's is limited. Mukwasi and Seymour (2012) propose that the benefits framework proposed by Seddon et al. (2000) extends to SME's, but their research also note that the risks of enterprise system implementations by SME's is greater because of the associated cost, time and effort. Based on a review of the literature by Davenport (1998), Kumar et al. (2000), Seddon et al. (2000) and Mukwasi et al. (2012), the various benefits of

implementing Enterprise Systems to SME's can be classified as operational, managerial and organizational, which are detailed below.

Of the companies reviewed by Seddon et al (2000)., 75% listed that they had achieved operational benefits, such as improvements in productivity through automation of processes and cycle time improvement, through the implementation of an ERP system. Their research shows that Enterprise Systems can achieve the following operational benefits, also noted by Mukwasi et al. (2012) i) Productivity improvement: the automation of redundant workflows and redesign of processes reduces time spent by employees on such tasks and allows them to spend their time on other tasks, making them more productive, and allowing business to do more with fewer employees. ii) Promotion of e-commerce: enterprise systems facilitate integration of business functions, including manufacturing, order placement, finance and inventory, enabling online orders, real-time order inquiries, interactive online customer service, improved product design through online feedback and automated procurement from suppliers and sub-contractors. iii) Cycle time reduction: in various areas such as order delivery, production, customer service, payroll processing, orders to suppliers and other areas. iv) Quality improvement: through automation of redundant processes which may be prone to human or other errors. v) Customer services improvement: through integration of customer relationship management systems with other business functions.

At the core of an enterprise system is a centralized database where information on all business functions is stored, which allows for a range of managerial benefits such as generation of comprehensive reports, often using business intelligence tools, automated management of manufacturing and inventory and performance monitoring and management. Managers are able to monitor the business performance and make well-informed decisions, thereby boosting the company's performance. In Seddon et al (2000), research, 55% of the 233 companies review had achieved such managerial benefits, which are described as: i) Better resource management: integration of inventory systems with an enterprise system improves the quality and timeliness of inventory information, and improved inventory planning. ii) Better decision-making: business intelligence module, which can rapidly generate high-level reports customizable, reports on any aspect of a business operation. Managers are able to make timely and well-informed decisions using such reports. iii) Better performance control: Sales-specific modules allows for automation of target setting and allocation of sales resources, as well as monitoring of performance by geography, business line and individual sales employees.

Seddon et al. state that enterprise systems, through the automation of processes, can facilitate a flattened organizational structure, improve employee morale and support employee "common vision" communications. Of 233 companies reviewed by Seddon et al., 14% were reported to have achieved the organizational benefits listed as: i)Facilitate business learning and broaden employ skills: enterprises systems allow for processes to be learnt by all employees, they shorten the learning time and broaden employees' skills. ii) Empowerment: Enterprise systems, through formalizing and maintaining records of workflows, approvals and other activities, improve accountability and allow more value-added responsibility. They allow users to be more pro-active in problem solving and enable them to work autonomously. Middle managers become more involved in business management, and they begin to develop as planners rather than simply being doers. iii)Changed culture with common visions: Enterprise systems make interpersonal communication more efficient, they promote interdisciplinary thinking, coordinate and harmonize differences, and interdepartmental processes, hence facilitating a consistent vision across different levels of organization.iv)Improved employee morale: Enterprise systems allow employees to focus on core work, on their customers and the business operation. Employees can also spend more time on front office activities, as opposed to less engaging back office activities. Based on the literature review this study investigated the influence of ERP systems in managerial decision making, monitoring employee performance, resource management, cost reduction, cycle time reduction and organizational benefits in SMEs Bahrain The following hypothesis have been developed:

H1: The implementation of Enterprise Systems has a significant positive impact in management decision-making ability of Bahraini SME's

H2: Enterprise Systems have a significant positive impact in monitoring employee performance in Bahraini SME's

H3: Enterprise Systems are significant in resource management of Bahraini SME's

H4: Enterprise Systems are significant in helping Bahraini SME's achieve cost reductions

H5: Enterprise Systems are significant in cycle time reduction of different activities of Bahraini SME's

H6: Enterprise Systems are significant in the achievement of organizational benefits by Bahraini SME's

DATA AND METHODOLOGY

For the purpose of the research survey, a sample size of 48 Bahraini SME's were randomly selected from the Bahrain SME directory available from Bahrain's SME Development and Support Center and these companies were contacted personally to answer a survey questionnaire about Enterprise Systems in Bahraini SME's, and the benefits of these systems. The data was collected during March-April 2013.
A two-part survey was developed to collect data for analysis and hypothesis testing. The first part of the survey comprised 4 general questions about the company to determine sample characteristics. Questions included company turnover, number of employees, company sector and ERP systems existence. Enterprise System use by a sampled company was denoted by the variable ERP, which was a binary variable with a value of 1 denoting that a company had implemented an Enterprise System and a value of 0 for companies that had not. The second part of the survey comprised thirteen questions about the hypothesized benefits of the ERP system. The survey, respondents were requested to provide answers on a 5-point Likert scale (1= strongly disagree and 5= strongly agree).

Table 2 shows support of ERP systems to SMEs which are classified as i) Managerial decision support: measured by three items administrative decisions support, financial decision support and operational decision support ii) Monitoring performance of marketing and sales department: measured by one item iii) Resource management support: measured by four items operational sources, financial resources, administrative resources and inventory & company assets iv) Cost reduction: measured by one item v) Reduction of cycle time: measured by one item and vi) organizational support: measured by three items organizational change, empowering management and achieving mission and objectives.

For testing the six proposed hypotheses, a linear least squares regression equation is constructed for each of the hypothesis using ERP benefits as the independent variable and the responses to the questionnaire as the dependent variable. Survey responses relating to the items were averaged and dependent variables constructed. Table 2 also shows regression models used in this study such as MAN = constant + $\beta_1 \cdot$ERP showing the influence of ERP on managerial decision making in SMEs.

Reliability of the survey questionnaire is measured by Cronbach's alpha, which is a good measure of internal consistency of the latent variable, and acceptable values are normally above 0.70. However, we can accept values near of 0.60 (Hair, et al., 2006), especially if the factor have only few items. While a value above 0.6 is sufficient, while a value above 0.7 is considered ideal (George and Mallery 2003). Cronbach alpha coefficient of this test data was 0.729, implying that the data is sufficiently internally consistent for further statistical analysis. SPSS software version 20.0 was used to conduct statistical analysis of the data using descriptive and ordinary least squares regression model to test each of the six hypotheses.

Table 2: Constructs and Dependent Variables Linear Regression Models

Enterprise System Benefit	No.of Items	Dependent Variable	Model	Regression Model(s)
Managerial benefit of improved decision-making…admin decisions ,operational decisions ,financial decisions	*3*	*MAN*	1	Managerial decision-making MAN = constant + β_1·ERP
Managerial benefit Performance enhancement : improved employee performance monitoring marketing and sales targets	*1*	*TGT*	2	Performance monitoring against targets TGT = constant + β_2·ERP
Resource management: improved resource management operational, financial administrative inventory	*4*	*RES*	3	Resource management RES = constant + β_3·ERP
Operational benefit cost reduction	*1*	*COST*	4	Cost improvement COST = constant + β_4·ERP
Operational benefit cycle time reduction	*1*	*TIME*	5	Cycle time reduction TIME = constant + β_5·ERP
Organizational benefits organizational changes, enhanced empowerment and objectives and mission	*3*	*ORG*	6	Organizational benefits ORG = constant + β_6·ERP

Table shows the constructs, regression models used and dependent variables with ERP as independent variable

RESULTS

Descriptive statistics of the variables annual turnover and number of employees are shown in Table 3 and 4 respectively. From Table 3,it is observed that out of a sample of 48 Bahraini SME's, 25% of the companies were very small with annual turnover of less than BHD 100,000 and 21% of the companies were relatively large with annual turnover of more than BHD 1,000,000. 23% of the sample companies had annual revenues between BHD 100,000 and BHD 250,000, and finally 31% had an annual turnover between BHD 250,000 and BHD 1,000,000, forming the largest sub-group within the sample in terms of annual turnover. In terms of number of employees as shown in Table 4, 78% of the sample companies had between 10 and 100 employees. Smaller SME's, with less than 10 employees, comprised only 12% of the sample, while the largest companies with number of employees between 100 and 250 comprised only 10% of the sample. 40% of the sample companies had between 10 and 25 employees, and another 38% had between 25 and 100 employees.

Table 3: Annual Turnover of Sampled Firms

Annual turnover	Number of firms
Below BHD100,000	12 (25%)
Between BHD 100,000 and BHD 250,000	11 (23%)
Between BHD 250,000 and BHD 1,000,000	15 (31%)
Above BHD 1,000,000	10 (21%)
Total	48 (100%)

Table shows number of sampled firms based on firm's annual turnover

Table 4: Number of Employees in the Sampled Firms

Number of Employees	Number of firms
Below 10	6 (12%)
Between 10 and 25	25 (40%)
Between 25 and 100	18 (38%)
Above 100 and 250	5 (10%)
Total	48 (100%)

Table shows number of sampled firms based on number of employees

Sector distribution of the sample is shown in Table 5. In terms of sector distribution, 80% of the companies were in either the Services sector (32%), the Supply and Trade sector (27%) or the Food and Retail sector (21%). Companies in the Contracting (8%), Manufacturing (8%) and other sectors (4%) together comprised 20% of the sampled companies.

Table 5: Sector Distribution of Sample Companies

Sectors	Number of Firms
Services	15(32%)
Supply and Trade	13(27%)
Food and Retail	10(21%)
Manufacturing	4(8%)
Contracting	4(8%)
Others	2(4%)
Total	48(100%)

Table shows number of sampled firms based on sectors

From Table 6, it's observed that out of the 48 companies, 36 (75% of the sample) had implemented ERP systems and the remaining 25% had not.

Table 6 ERP and SMEs

SMEs with ERP	SMEs without ERP
36	12

Table shows number of SMEs where ERPs are in use

The descriptive statistics for the mean response of surveyed items are shown in table 7. All means are above 3.5 with standard deviations ranging between 0.935 to 1.227, indicating narrow spread around the mean.

Table 7: Summary of Means and Standard Deviations (N=48)

Factors	Mean	Std.dev
Managerial Decision Support:		
Administrative decisions support	3.58	1.158
Financial decision support	3.69	1.203
Operational decision support	3.69	0.973
Monitoring performance of marketing and sales department	3.71	1.141
Resource management support:		
Operational sources	3.49	1.160
Financial resources	3.89	0.935
Administrative resources	3.56	1.167
Inventory & company assets	3.69	1.164
Cost reduction	3.51	1.014
Reduction of cycle time	3.69	1.145
Organizational support:		
Organizational change	3.89	1.172
Empowering management	3.69	1.221
Achieving mission and objective	4.00	1.087

Table showing the average and standard deviation of the responses of surveyed items measured on 5 point Lickert scale 1=strongly disagree 5= strongly agree

Table 8 shows regression statistics summary of the models used in this study. Model one: MAN = 2.917 + 0.898·ERP , indicates ERP explains about 21.2 % variation in managerial decision making such as administrative decisions, operational decisions, and financial decisions and has positive impact on managerial decision making . Model 2 indicates ERP explains about 20.5% variation in performance monitoring against targets and has positive impact on monitoring employee target performance. Model 3 indicates ERP explains about 6.1% variation in Resource management: improved resource management operational, financial administrative inventory and has positive impact on resource management. Model 4 suggests that ERP explains only 16.4% variation on cost control and it has a positive impact on effective cost management. Model 5 indicates that ERP explains only 9.7% variance on cycle time reduction having positive impact. Model 6 indicates a very low explanatory power of ERP systems on

organizational benefits such as empowerment, organizational changes, achieving objectives and its mission .Observing p values from the table 4 suggests that hypothesis H1, H2, H3, H4, H5 are supported either at 5% or 1% level of significance and H6 is rejected. Beta values β_1, β_2, β_3, β_4 and β_5 indicate implementation of ERP systems has significance impact on all dependent variables except organizational employee empowerment, objectives and mission.

Table 8: Regression Summary Statistics

Model	Regression Equation	Constant	Beta (t-value)	t-value of Beta coefficient	R2	F-statistic	P-value
1	MAN = 2.917 + 0.898·ERP	2.917	β1=0.898	3.516	0.212	12.362	0.001
2	TGT = 2.500 + 1.333·ERP	2.500	β2=1.333	3.445	0.205	11.871	0.001*
3	RES = 3.222 + 0.370·ERP	3.222	β3=0.370	1.729	0.061	2.991	0.090**
4	COST = 2.750 + 0.972·ERP	2.750	β4=0.972	3.000	0.164	9.002	0.004*
5	TIME = 3.000 + 0.824·ERP	3.000	β5=0.824	2.221	0.097	4.993	0.031*
6	ORG= 3.389 + 0.083·ERP	3.389	β6=0.083	0.274	0.002	0.075	0.785

*First two columns shows regression coefficients ,R^2shows explanatory power of independent variable on dependent variable and last column shows *significant at 5% ,1% and ** significant at 10% levels. t statistic of the explanatory variable shown in parenthesis.*

CONCLUSION AND RECOMMENDATION

Aim of this research paper is to study the impact of ERP system on MSEs in Bahrain context. The relevant data was collected through a survey questionnaire during March-April 2013 and analyzed using statistical software SPSS version 20.0-.Ordinary linear regression analysis were used in testing hypothesis statements. One of the limitations of this research is time constraint and accessibility of SMEs and their willingness to participate in the survey thus a limited sample data. In light of the research by Davenport (1998), Kumar et al. (2000), Seddon et al. (2000) and Mukwasi et al. (2012), and the results of the regression analysis and the subsequent hypothesis testing, the research found that the use of Enterprise Systems by SME's in Bahrain provides significant positive managerial and operational benefits. In terms of managerial benefits, the management teams of SME's benefit from improved decision-making and performance monitoring, mainly through the use of business intelligence tools to automate the generation sales and other performance review reports.

In terms of operational benefits, SME's are able to benefit from cycle time reductions and cost reductions, through productivity improvements achieved by the automation of various business processes, workflows and integration with suppliers and customers. A wider adoption of Enterprise Systems by Bahraini SME's can help them to expand and achieve business growth, and contribute to the economic growth of Bahrain, both in terms of GDP contribution and employment creation, which is in line with the Bahrain's economic vision 2030. While the Government of Bahrain has implemented several policies to support SME development primarily through Tamkeen and through the Bahrain Development Bank, the research implies that Bahrain should develop specific policies to support SME's in adoption of various technologies. These technologies would include Enterprise Resource Planning Systems. Tamkeen, the Bahraini government entity concerned with job creation and SME development, currently provides a number of programs to support SME's, financially (Tamkeen Annual Report, 2011). Tamkeen should develop specific programs to promote acquiring and use of Enterprise System as these can require significant financial investments. Future research may include more sample data and other statistical analysis such as factor analysis

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BIOGRAPHY

Amba Muni Sekhar is Assistant professor at New York Institute of Technology. His research interest includes corporate governance, Investments, Corporate Finance and Leadership. The Author may be contacted at smuni@nyit.edu

INFLUENCE OF LOCAL AUTHORITY TRANSFER FUND ON SERVICE DELIVERY BY LOCAL GOVERNMENT AUTHORITIES IN KENYA

Jackson Ongong'a Otieno, Ministry of Local Government, Kenya
Paul A. Odundo, University of Nairobi, Kenya
Charles M. Rambo, University of Nairobi, Kenya

ABSTRACT

The Local Authorities Transfer Fund (LATF) is an intergovernmental transfer system, supplementing the financing of service delivery within the framework of fisc0al decentralization. LATF's objectives are to improve service delivery, enhance financial management and accountability as well as reduce debts accumulated by local authorities. The purpose of this study was to establish the influence of LATF on service delivery by local authorities, focusing on Siaya Municipal Council. We gauged residents' perspectives about improvement of water supply, garbage collection, and sewerage services. We sourced primary data from 188 household heads and 202 market traders. The study found that 63.2% of the participants believed that there was no change in water supply consistency, while 69.5% reported the same about adequacy of water provided by the Council. Besides, 55.6% of the participants indicated that garbage collection had deteriorated, while 63.8% said the same about sewerage services. The findings suggest that access to LATF resources over the preceding decade had not improved service delivery in Siaya Municipality. Delivery of services was constrained by political interference (57.4%), procurement malpractices (44.1%), weak revenue base (38.7%), and understaffing (33.1%), among other factors. In view of this, local authorities should shape up to meet the current service demand, as well as gear up to address the needs of urban population, which is set to grow over the coming years.

JEL: 016

KEYWORDS: Local Authority, Service Delivery, Municipality, Decentralization, Fiscal Decentralization

INTRODUCTION

The Local Authorities Transfer Fund (LATF) was established through the Local Authorities Transfer Fund Act, No. 8 of 1998 (Government of Kenya [GoK], 1999) to improve service delivery, enhance financial management and accountability, as well as reduce debts accumulated by local authorities. LATF draws from the national revenues and replenishes through 5% of the national annual income tax (Kibua & Mwabu, 2008; Institute of Economic Affairs [IEA], 2009). The allocation criteria ensure consistency, fairness, and transparency. The criteria include the following terms: a basic minimum lump sum of KES 1.5 million (6.6%) is shared equally among the country's 175 local authorities, while 60% of the fund is disbursed according to relative population sizes of local authorities. Accessing the remaining 33.4% depends on local authorities meeting set financial management and accountability threshold (Kibua & Mwabu, 2008; IEA, 2009). The money disbursed through LATF supplements local authorities' revenues (IEA, 2009). In this regard, Article 4 of the Act indicates that LATF was established 'to supplement the financing of services and facilities they are required to provide under the Local Government Act' (GoK, 1999).

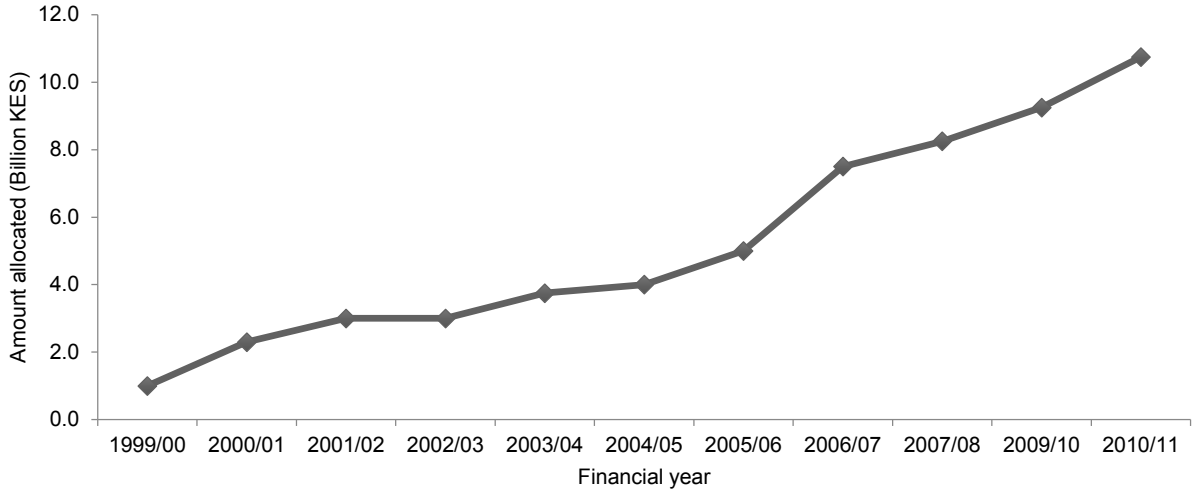
In order to access LATF resources, local authorities are required to develop action plans, known as Local Authority Service Delivery Plans (LASDAP), which are prepared through participatory processes, involving various stakeholder groups and community members. The participatory approach amplifies local communities' voice in project identification, planning, monitoring, evaluation, and accountability

processes. It also cultivates a sense of ownership of LATF projects (Kibua & Mwabu, 2008; Menon et al., 2008; Bonoff & Zimmerman, 2010). LASDAP prioritizes projects and activities that should receive funding. Besides, they are founded on key pillars of poverty reduction, in line with the Poverty Reduction Strategy Paper (PRSP) and the Economic Recovery Strategy (ERS) whose priority focus include health, education, infrastructure, and informal settlement upgrading (IEA, 2009).

Local authorities adopt complete plans as a resolution, before submission to the Ministry of Local Government (MoLG). It is however, the responsibility of stakeholders to hold councilors and chief public officers accountable for LASDAP's implementation; hence, the primacy of their monitoring role (Kibua & Mwabu, 2008; IEA, 2009). The Ministry encourages transparency by disbursing 60% of LATF upon submission of necessary budgetary and technical proposals. The Ministry further emphasizes performance by distributing the remaining 40% of the funds based on LASDAP's performance targets (Bonoff & Zimmerman, 2010). In the event of delayed filing of returns, local authorities are subject to penalties. For instance, delays of up to 30 days attracts 15% loss of allocated funds; 31 to 60 days leads to the loss of up to 40% of allocations, while delays of more than 60 days may lead to complete loss of LATF (GoK, 1999; Bonoff & Zimmerman, 2010).

Furthermore, legal provisions for transparency to citizens enhance accountability. In this regard, local authorities are required to publish reports about funds received from the central government each year in national newspapers. The authorities are further required to hold annual budget days in the month of June, which provide forums for engagement with citizens about revenue and expenditure reports, as well as planned budgets for subsequent financial years (GoK, 1999; Bonoff & Zimmerman, 2010). A review of annual LATF reports reveals that disbursements are increasing steadily from Kenya Shillings (KES) 1 billion in Financial Year (FY) 1999/2000, to KES 10.8 billion in the FY 2010/2011, as indicated in Figure 1.

Figure 1: National LATF Allocation Trend (1999/00-2010/11)



Presented in Figure 1 are data, which we obtained from the annual LATF reports for the period 1999 to 2011. The data shows that disbursements are increasing steadily from KES 1 billion in Financial Year (FY) 1999/2000, to KES 10.8 billion in FY 2010/201. The data reveals significant increments between the FY 2005/06 and FY 2006/07.

In Siaya Municipality, the data show that the amount allocated has increased from KES 11.7 million in the FY 1999/00 to KES 57.4 million in the FY 2010/11, with significant increment noted between the years 2004/05 and 2005/06.

Figure 2: Siaya Municipal Council LATF Allocation Trend (1999/00-2010/11)

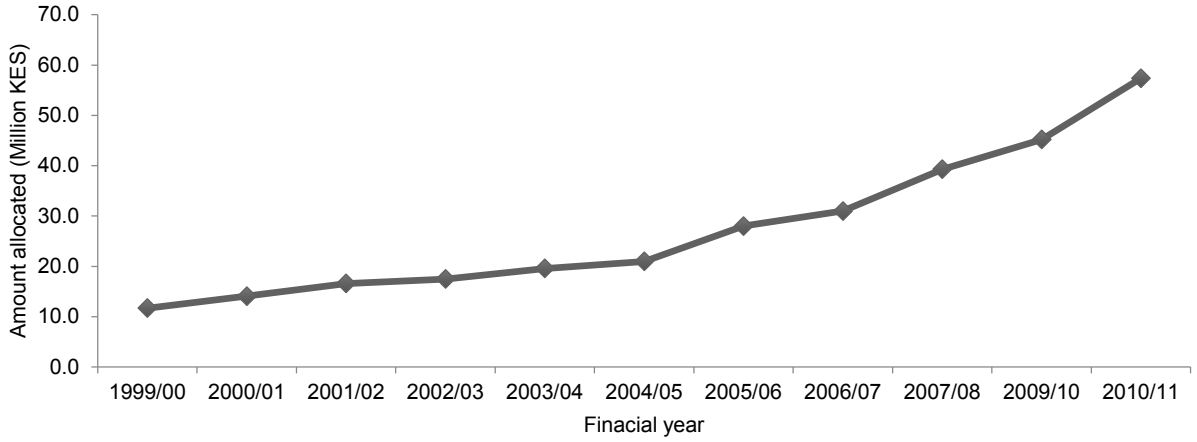


Figure 2 shows the data obtained from the annual LATF reports about amounts allocated to Siaya Municipal Council. The data show that the amount allocated has increased from KES 11.7 million in the FY 1999/00 to KES 57.4 million in the FY 2010/11, with significant increment noted between the years 2004/05 and 2005/06.

By the end of 2010, local authorities had received a total of KES 69 billion from the Government since LATF's inception in 1999. However, Oywa and Opiyo (2011) point out that most of them do not have much to show for the amounts received so far. Instead, persistent complaints about poor service delivery have emerged repeatedly in the media and in public forums (Bonoff & Zimmerman, 2010; Oywa & Opiyo, 2011). Available literature suggest that local authorities are not only failing to provide a satisfactory level of services but are also poorly managed and have departments that are among the most corrupt within the Kenyan public sector (IEA, 2005; Nyangena, Misati & Naburi, 2010). Unprecedented proliferation of residents' associations is also an indicator of growing dissatisfaction with the quality of services that local authorities provide. The purpose of such associations is to mobilize residents to demand quality services from local authorities as well as pursue legal actions against authorities that fail to improve services (IEA, 2005). The decentralization of LATF resources to local authorities should improve services such as supply of clean water for domestic and industrial use, sanitation, waste management, as well as healthcare and education services, among others (IEA, 2005).

A review of pertinent literature reveals that various studies, including Smoke (2000), IEA (2005), Kageri (2010) and Nyangena et al. (2010) have documented issues associated with service delivery in various local authorities in Kenya. For instance, Kageri (2010) found that water supply in Nyeri Municipality was inconsistent, while the amount supplied fell below the water demand by about 30%. In their study, Nyangena et al. (2010) found that four out of eight local authorities accessing LATF experienced difficulties providing necessary services to residents due to financial deficits. Such findings suggest that after a decade of LATF's operation, a significant proportion of local authorities are yet meet the demand for quality services by their residents. Nonetheless, the literature reveals a paucity of information on the linkage between access to LATF resources and service delivery, particularly in Siaya Municipality. Against this constraint, we conducted this study to establish residents' perspectives about the quality of essential services, including water, sanitation, and waste management over the preceding two-year period (2007-2009). The paper has four key sections, including literature review, data, and methodology, results, as well as concluding comments, which culminates to limitations and recommendation for further research.

LITERATURE REVIEW

Since independence, the Government of Kenya has been pursuing decentralized development policies, with a view to improving the quality of life for its citizens. In this regard, the Sessional Paper No. 10 of 1965 on African Socialism and its Application to Planning in Kenya was the first policy document outlining the decentralization agenda, targeting districts and local government authorities across the country (Kibua & Mwabu, 2008). In 1983, the government introduced the District Focus for Rural Development (DFRD) strategy to further the interests of decentralized development agenda (Alila & Omosa, 1996; Chitere & Ireri, 2008), with districts becoming the key planning units. However, Chitere and Ireri (2008) point out that DFRD's performance was constrained by factors such as limited involvement of community members in project prioritization, implementation, monitoring, and evaluation. According to Bonoff and Zimmerman (2010), fiscal decentralization anchors on the premise that local communities can prioritize projects in line with their needs and that, local resources are easy to tap where community members are involved in development processes.

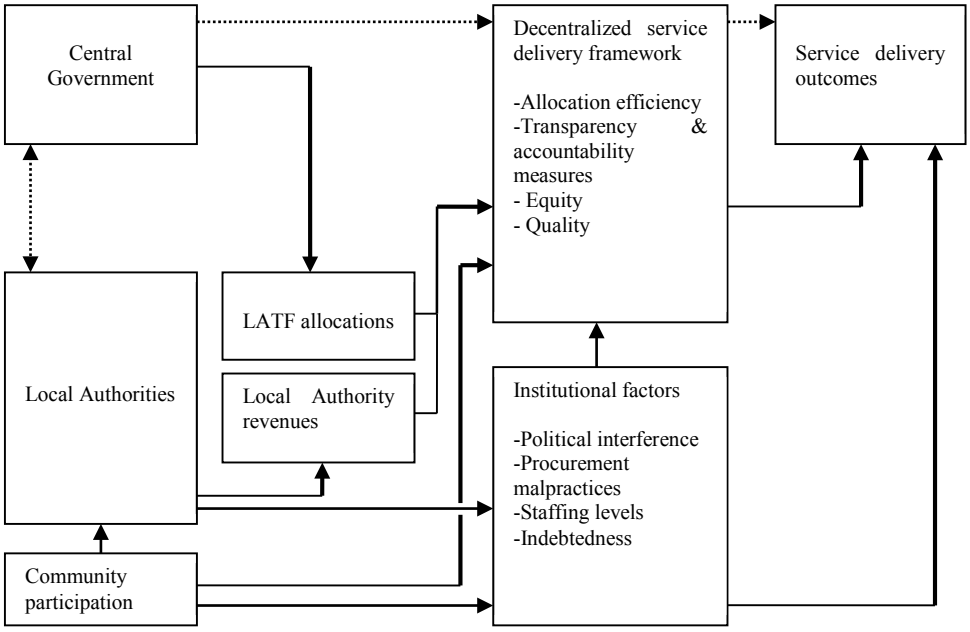
The Economic Recovery Strategy for Wealth and Employment Creation (ERSWEC) 2003-2007 is perhaps, the Government's policy document providing the best framework for fiscal decentralization, within which subsidiary public institutions such as local authorities receive public funds (Kibua & Mwabu, 2008; GoK, 2003). Fiscal decentralization framework is further set out in the First Medium Term Plan (MTP) 2008-2012 (GoK, 2008), as well as Kenya's Vision 2030 (GoK, 2010). These policy efforts paved way for the initiation of various devolved funds, including the Local Authorities Transfer Fund (LATF), which was established through the Local Authorities Transfer Fund Act, No. 8 of 1998 (GoK, 1999) to among other objectives, improve service delivery.Decentralization is the process of dispersing functions, powers, or resources away from central governance systems to subsidiary or quasi-independent government structures at the regional, municipal, or local levels (Rondinelli, 1999; Cheema, 2007; Conyers, 2007). Its purpose is to enhance efficiency and increase community participation in decision-making, improve equity in resource sharing, improve the quality of service delivery, as well as enhance accountability in fund administration (Devas & Grant, 2003; Conyers, 2007).

The transfer of such authority and responsibility may assume various dimensions, including fiscal, administrative, political, as well as economic powers and functions (Rondinelli, 1999; Phillip, 2009; Muriu, 2013). As noted by Conyers (2007), scholars have applied the concept of decentralization in various fields, including public administration, economics, management science, law, and public finance, among others. Whatever the field of application, the common denominator is that it responds to limitations and challenges associated with centralized governance and management systems (Conyers, 2007). The dispersion of authority and responsibility in the management of public funds is a key component of decentralization, whose aim is to improve efficiency, accountability, and better service delivery. Fiscal decentralization involves passing of budgetary, revenue and expenditure authority from centralized systems to quasi-autonomous government institutions (Menon, Mutero & Macharia, 2008).

The key attributes of fiscal decentralization includes assigning clear expenditure and revenue responsibilities; initiating intergovernmental fiscal transfer mechanisms from central to local governments; and authorizing borrowing and revenue mobilization through loan guarantees from central governments (Phillip, 2009; Muriu, 2013). The quality of services delivered by local authorities within the decentralization framework depends on the available resources and discretion over them, as well as institutional factors such as political interference, procurement malpractices, and staffing levels, among others (Saavedra-Costas, 2009). Figure 3 shows the perceived linkage between LATF resources and service delivery outcomes within a decentralized framework. The central government influences the quality of services through LATF resources or other forms of devolved funds such as Constituency Development Fund (CDF), Constituency Bursary Fund (CBF), as well as direct disbursement to government ministries at the district level. The central government also provides guidelines for planning, budgeting, expenditure,

as well as transparency and accountability measures. An additional role includes the enforcement of policy guidelines to ensure compliance. As recipients, local authorities develop plans in line with guidelines provided by the central government, which they submit for funding considerations. The planning process should be participatory, involving various stakeholder groups and community members. The participatory approach amplifies local communities' voice in project identification, planning, monitoring, evaluation, and accountability processes, as well as cultivates a sense of ownership of LATF projects (Kibua & Mwabu, 2008; Menon et al., 2008; Bonoff & Zimmerman, 2010). Local authorities also compile and file their expenditure returns with the central government.

Figure 3: Perceived Linkage between LATF and Service Delivery Outcomes



This figure shows the linkage between LATF and service delivery outcomes, as adapted and modified from Muriu (2013). The figure shows that LATF resources complement local authority revenues and expenditure should prioritize in line with expenditure guidelines within decentralized service delivery framework. Community involvement in planning and oversight of local authorities also influence service delivery outcomes.

Furthermore, community participation is important in the planning process, oversight of local authorities, which is likely to influence governance issues such as political interference, procurement malpractices, as well as staffing challenges such as shortage, motivation, and high turnover of technical staff. Community participation is also crucial in ensuring compliance with transparency and accountability guidelines, allocation efficiency, as well as equity. As noted by Saavedra-Costas (2009), decentralization can help in strengthening accountability, which is a necessary ingredient for better service delivery. In this regard, where elected leaders are involved in making policy decisions about the delivery of essential services, decentralization grants opportunity for such leaders to hold public servants accountable to citizens. Under such circumstances, elected leaders can agitate for the removal of public officials who fail to deliver quality services (Saavedra-Costas, 2009).

The influence of decentralization on service delivery is a subject that has attracted empirical studies in various socio-economic contexts across the globe. For instance, Alderman (1998) found that decentralization improved efficiency and consistency in the supply of water for domestic use, waste management, education, health, and public transport services in Albania. Habibi, Huang, Miranda, Murillo, Ranis, Sarkar, and Stewart (2001), who assessed the influence of devolution on social sector outcomes for the period 1970-94 in Argentina, also reported similar findings. The study concluded that fiscal decentralization improved the delivery of education and health services as well as reduced intra-regional

disparities in development indicators. In India, Bardhan and Mookherjee (2003) reported that decentralized management of public resources strengthened poverty reduction interventions by improving the timeliness of decision-making, feedback, and ensuring consistency between interventions and community priorities. An empirical study, which focused on 16 municipalities in Colombia, reported that about two-thirds of participants indicated a higher level of trust for local authorities than for the national government in the delivery of services. The study further revealed that allocation of resources by local governments was more consistent with community preferences than allocations by the national government (World Bank, 2004).

In Bolivia, Faguet (2001) performed an in-depth study of fiscal decentralization with the objective of evaluating its influence on changes in expenditure patterns at the local level. The study showed that spending patterns changed in favor of education, water and sanitation, agriculture and urban development, in response to fiscal decentralization. Like, Bardhan and Mookherjee (2003), the study also noted that decentralization improved the consistency of public services with community priorities, particularly due to improved involvement in project planning and implementation. In the same country, Kaufmann, Mehrez, and Gurgur (2002) noted that local authority services were more accessible to citizens than services provided by the central government.

In a multi-country study, Estache and Sinha (1995) also associated decentralization with increased spending on public infrastructure and improved delivery of public services, including water supply and sewerage management. Similarly, Arze and Martinez-Vazquez (2003) noted a change in expenditure composition with increasing fiscal decentralization. More specifically, the study reported a significant correlation between the level of expenditure in service delivery and decentralization, with the results being stronger in developing than developed countries. The literature further reveals that the relationship between decentralization and service delivery is not always positive. For instance, Azfar and Livingston (2002) did not find any positive effects of decentralization on efficiency and equity of public service provision in Uganda. Similarly, a study conducted in rural China found that decentralization lowered the quality of public services in poor regions (West & Wong, 1995). Nonetheless, there remains a paucity of similar literature in Kenya and more specifically in Siaya County.

DATA AND METHODOLOGY

We applied the cross-sectional survey design to guide the research process, including planning, training and pretesting, data sourcing, data processing and analysis, as well as reporting. The study targeted residents of Siaya Municipality, including household heads and market traders. It focused on household heads who had been residents of the municipality for at least three years. Market traders included those who had conducted business activities within Siaya Municipal Market for at least three years and owning business premises within the market. Those excluded from the study were household heads and traders who had ever vied for political positions, as well as employees of the Council.

We collected primary data in the month of June 2011 and the process involved identification of eligible participants, consenting and interviewing. We applied cluster random and purposive sampling procedures to select household heads and market traders. We also applied a survey questionnaire with structured and semi-structured questions to source the data. At the end of data collection, 390 people were successfully interviewed, including 188 (48.2%) household heads and 202 (51.8%) market traders. Furthermore, we employed quantitative and qualitative techniques to process and analyze the data. In this regard, quantitative analysis obtained frequency distributions with percentages and cross-tabulation, we also transcribed, clustered into nodes and explored qualitative data for patterns and meaning to the role of LATF in service delivery in the Municipality. Detailed description of the design and methods used in this study are available in publications such as Nachmias and Nachmias (1996), Bryman and Cramer (1997), American Statistical Association (1999), Owens (2002), Rindfleisch, Malter, Ganesan and Moorman (2008), among others.

RESULTS

The study covered two groups of participants, including household heads and market traders at the Siaya Municipal Market. Participants in both groups are consumers of essential services provided by the Council, including water, garbage collection, and sanitation. In this regard, household heads provided their perspectives about domestic services, while traders indicated their views about services provided at the Municipal Market. The results in Table 1 show that most household heads, 111 (59.0%) had stayed within the Municipality for at least 10 years, while at the market, 128 (63.4%) traders had operated at the Market for the same duration. This suggests that most participants were likely to be familiar with the history of service delivery by the Council, making them better placed to judge the quality of services.

Table 1: Socio-Economic Profile of Participants

Participants' Socio-economic Attributes	**Household heads**		**Market Traders**		**Total**	
	Frequency	***Percent***	***Frequency***	***Percent***	***Frequency***	***Percent***
Duration of stay/trade at the market						
3-5 years	26	13.8	23	11.4	49	12.6
6-10 years	51	27.1	51	25.2	102	26.2
>10 years	111	59.0	128	63.4	239	61.3
Total	**188**	**100**	**202**	**100**	**390**	**100.0**
Gender						
Male	91	48.4	91	45.0	182	46.7
Female	97	51.6	111	55.0	208	53.3
Total	**188**	**100**	**202**	**100**	**390**	**100.0**
Age						
<20 years	9	4.8	15	7.4	24	6.2
20-29 years	84	44.7	79	39.1	163	41.8
30-39 years	70	37.2	75	37.1	145	37.2
40-49 years	19	10.1	19	9.4	38	9.7
50 years+	6	3.2	14	6.9	20	5.1
Total	**188**	**100**	**202**	**100**	**390**	**100.0**
Education level						
None	3	1.6	2	1.0	5	1.3
Primary	65	34.6	55	27.2	120	30.8
Secondary	96	51.1	115	56.9	211	54.1
College	18	9.6	24	11.9	42	10.8
University	6	3.2	6	3.0	12	3.1
Total	**188**	**100**	**202**	**100**	**390**	**100.0**
Average income						
<KES 20,000	11	5.9	28	13.9	39	10.0
KES 20,000-29,000	34	18.1	33	16.3	67	17.2
KES 30,000-39,000	24	12.8	41	20.3	65	16.7
KES 40,000-49,000	29	15.4	26	12.9	55	14.1
KES 50,000-59,000	17	9.0	24	11.9	41	10.5
KES 60,000-69,000	24	12.8	19	9.4	43	11.0
KES 70,000-79,000	21	11.2	16	7.9	37	9.5
KES 80,000+	28	14.9	15	7.4	43	11.0
Total	**188**	**100**	**202**	**100**	**390**	**100.0**

This Table shows the distribution of participants based on various attributes, such as duration of stay at the current place of residence, duration of trade at the Municipal Market, gender, age, educational attainment and average income level. The last column provides statistics for the whole lot of participants.

In terms of gender, the household heads included 97 (51.6%) women and 91 (48.4%) men, while the traders included 111 (55.0%) women and 91 (45.0%) men. Besides, most household heads, 84 (44.7%) were aged between 20 and 29 years, and so were 79 (39.1%) traders. Those aged 30 to 39 years included 70 (37.2%) household heads and 75 (37.1%) traders. Regarding educational attainment, 96 (51.1%) household heads and 115 (56.9%) traders reported having secondary education; 65 (34.6%) household heads and 55 (27.2%) traders indicated primary education, while 18 (9.6%) household heads compared to 24 (11.9%) traders stated college education. Regarding the average monthly income, 34 (18.1%) household heads and 33 (16.3%) traders were in the bracket of KES 20,000 to 29,000; another 24 (12.8%) household heads and 40

(20.3%) traders indicated KES 30,000 to 39,000, while those earning between KES 40,000 and 49,000 included 29 (15.4%) household heads and 26 (12.9%) traders.

Regarding perspectives on the quality of services provided by Siaya Municipal Council, participants were requested to rate their judgment on a three-point scale on whether the quality of essential services, including water, garbage collection and sanitation had improved or not over the preceding two-years period. The results presented in Table 2 show that out of 188 household heads, 98 (52.1%) indicated that there was no change in the consistency of domestic water supply, 75 (39.9%) said the consistency had deteriorated, while only 15 (8.0%) participants were of the view that the consistency of water supply had improved over the reference period. At the market, the results suggest that no participant believed that water supply consistency had improved over the preceding two-years period, instead, 150 (74.3%) participants felt that there was no change on water supply consistency, while 52 (25.7%) were of the view that consistency had deteriorated over the reference period.

Table 2: Perspectives of Participants Regarding Water Supply Services

Participants' perspectives	Household heads		Traders		Overall	
	Frequency	*Percent*	*Frequency*	*Percent*	*Frequency*	*Percent*
Water supply consistency						
Improved	15	8.0	0	0.0	16	4.0
No change	98	52.1	150	74.3	246	63.2
Deteriorated	75	39.9	52	25.7	128	32.8
Total	**188**	**100.0**	**202**	**100.0**	**390**	**100.0**
Water adequacy						
Improved	16	8.5	28	13.9	44	11.2
No change	143	76.1	127	62.9	271	69.5
Deteriorated	29	15.4	47	23.3	75	19.3
Total	**188**	**100.0**	**202**	**100.0**	**390**	**100.0**

This Table presents results about participants' perspectives about water supply consistency and water adequacy. The results suggest that more than two-thirds (63.2%) of the participants believe that there was no change in water supply consistency. Regarding water adequacy, up to 69.5% expressed indifference.

Still on water supply, Table 2 shows that 143 (76.1%) household heads reported lack of change in the adequacy of water received at home, 29 (15.4%) others indicated that water adequacy had deteriorated, while 16 (8.5%) hinted that water adequacy had improved over the reference period. In addition, 127 (62.9%) market traders felt that there was no change on the adequacy of water received, vis-à-vis their family needs; while 47 (23.3%) felt that the quantity of water received at the market had deteriorated over the reference period. Only 28 (13.9%) were affirmative that water quantity had improved. Table 3 further shows that up to 101 (53.7%) household heads indicated that collection of domestic garbage had deteriorated, 78 (41.5%) had not seen any change, while only 9 (4.8%) felt that the service had improved. Among market traders, the results show that about two-thirds of participants, 116 (57.4%), were of the view that garbage collection at the market had deteriorated over the reference period; 74 (36.6%) said there was no change, while 12 (5.9%) believed that the service had improved.

Furthermore, 103 (54.8%) household heads were of the view that sewerage services had deteriorated, 59 (31.4%) indicated lack of change, while only 26 (13.8%) believed that some improvement had been realized. At the market, most traders, 147 (72.8%), were of the view that the service had deteriorated, 45 (22.3%) said there was no change, while 10 (5.0%) thought that sewerage services at the market had improved. Furthermore, we requested participants to indicate factors influencing service delivery at the Council.

Table 3: Perspectives of Participants Regarding Garbage Collection and Sanitation Services

Participants' perspectives	Household heads		Traders		Overall	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Garbage collection						
Improved	9	4.8	12	5.9	21	5.4
No change	78	41.5	74	36.6	152	39.1
Deteriorated	101	53.7	116	57.4	217	55.6
Total	**188**	**100.0**	**202**	**100.0**	**390**	**100.0**
Sewerage services						
Improved	26	13.8	10	5.0	37	9.4
No change	59	31.4	45	22.3	105	26.8
Deteriorated	103	54.8	147	72.8	249	63.8
Total	**188**	**100.0**	**202**	**100.0**	**390**	**100.0**

This Table presents results about participants' perspectives about garbage collection, and sewerage services. The results suggest that up to 55.6% of the participants indicated that garbage collection had deteriorated, while another 63.8% stated that sewerage services had also deteriorated.

The results presented in Table 4 show that out of 390 participants, 224 (57.4%) cited political interference as the main constraint. Participants noted that service delivery was impeded by interference by political leaders both from within the Council as well as from outside, including councilors, members of parliament, Minister for Local Government and in some instances, the President. Since the Local Government Act (Cap 265) allows for the nomination of councilors by higher authorities such as the Minister or the President. Many times councilors so nominated find it hard to submit to the authority of Council staff and other leaders.

Table 4: Factors Influencing Service Delivery in Siaya Municipality

Valid responses	Frequency	Percent of Response	Percent of Cases
Political interference	224	22.4	57.4
Procurement malpractices	172	17.2	44.1
Heavy indebtedness	78	7.8	20.0
Weak revenue base	151	15.1	38.7
Revenue collection inefficiency	66	6.6	16.9
Understaffing	129	12.9	33.1
Other human resource issues	38	3.8	9.7
Unmotivated council workers	94	9.4	24.1
High turnover of professional staff	49	4.9	12.6
Total	**1001**	**100.0**	**256.7**

This Table presents multiple responses on factors influencing service delivery within Siaya Municipality. The results show that up to 57.4% (sample size = 390) indicated that delivery was impeded by interference by political leaders both from within the Council as well as from outside. Other factors influencing service delivery include procurement malpractices (44.1%), weak revenue base (38.7%), and understaffing, among others.

Where councilors are elected, participants cited political party influences infiltrating into the Council to determine who receives particularly services, when and how much. Under such circumstances, service delivery skews in favor of areas perceived to be politically loyal to key decision-makers within the Council. Furthermore, 172 (44.1%) participants reported that service delivery in the Council was affected by procurement malpractices, manifesting through situations where some tender committee members acted in favor of particular candidates, tendering documents designed in favor of particular bidders, including political loyalists, business associates or family members, as well as single sourcing of service providers, against the legal provisions. In addition, participants noted that some politically connected bidders often collude with tender committee officials to overprice materials and works. Such practices often culminated to loss of millions of public funds. Table 4 further shows that 151 (38.7%) participants indicated that service delivery was constrained by a narrow revenue base because the Council had not fully exploited available economic opportunities. This affected the amount of internally generated revenue, thus, constraining the Council's capacity to meet the expectations of residents in terms of service delivery as well as meet its financial obligations to suppliers and contractors. It is important to note that LATF resources only supplements local authorities' revenues to improve service delivery (IEA, 2009); thus, making it crucial for local authorities to initiate appropriate measures to generate additional resources. Still tied to

weak revenue base, some participants, 66 (16.9%), noted that the Council lacks effective internal control measures to prevent leakages of revenues at various stages, including in the hands of collectors, financial management department and chief accounting officers. In view of this, participants noted that the financial management system of the Council is grossly inefficient.

More still, 129 (33.1%) participants identified understaffing as one of the key human resource issues constraining service delivery at the Council. Understaffing was further links to delayed replacement of professional and technical staff leaving the station through transfers as well as those absent due to prolonged illness or natural attrition. Instead, the Council encouraged available staff to cope with the resultant heavy workload through multi-tasking, sometimes performing tasks for which they had no training at all. Moreover, up to 94 (24.1%) participants linked service delivery with lack of staff motivation, particularly due to low pay and delayed salaries, which at the time of the study, had run into several months. The results in Table 4 further indicate that 78 (20.0%) participants associated poor service delivery with heavy indebtedness to suppliers of goods, services, and works. Participants attributed the high level of debts to mismanagement of public resources due to political interference, limited enforcement of transparency and accountability regulations by the Minister. Participants also linked heavy indebtedness to the narrow revenue base and revenue collection inefficiencies.

The results show that 49 (12.6%) participants cited high turnover of technical staff as one of the key factors weakening service delivery, particularly due to conflict between technocrats and councilors. Participants cited cases where councilors harassed, intimidated, assaulted and even manipulated the system to have technical staff standing on their way transferred to other stations, which in turn, affected the continuity of projects initiated to improve service delivery, as well as provide loopholes for diversion of funds to private accounts. Other human resource issues cited by 38 (9.7%) participants included hiring of unqualified people to perform technical duties and payment of 'ghost' workers. In this regard, participants cited instances where some Council workers were hired without due consideration of their ability to perform the tasks entailed in effective service provision. Participants also cited cases where particulars of elected leaders' relatives were sneaked into workers payroll; thus, siphoning out resources that could be used to improve service delivery.

CONCLUDING COMMENTS

The purpose of this study was to establish the influence of LATF on service delivery by local government authorities, focusing on Siaya Municipal Council. We set the study to achieve this through residents' perspectives about the quality of essential services, including water, garbage collection, and sanitation, over the preceding two years period (2007-2009). The study found that more than two-thirds (63.2%) of the participants believed that there was no change in water supply consistency, while 69.5% indicated that there was no change regarding the adequacy of water. Even worse is that up to 32.8% believed that water supply consistency had deteriorated, while 19.3% reported the same about water adequacy. In addition, 55.6% of the participants indicated that garbage collection had deteriorated, while 63.8% stated the same about sewerage services. These findings suggest that the disbursement of LATF resources to Siaya Municipal Council for about ten years had not improved the delivery of essential services. Rather, service delivery is constrained by a number of factors including interference by political leaders, non-adherence to public procurement regulations, weak revenue base, and understaffing, among other factors.

As urban populations grow at an unprecedented rate, so is the demand for services from local authorities. There is no doubt that rapid growth of population will require a higher measure of infrastructural and capacity expansion to deliver services. Based on the findings of this study, it may be incorrect to state that the Council is prepared to accommodate the growth of its population, which the 2009 National Population and Housing Census analytical report placed at 2.4% per annum. Kenyan local authorities, including Siaya Municipal Council should shape up to meet the current demand for services, as well as gear up to respond to the challenges associated with the anticipated population growth.

Although local authorities have been clamoring for greater autonomy, public reactions regarding the quality of services and pervasive corruption remain key factors undermining the logic to amend the law to grant such autonomy. Without adequate adherence to existing regulations, the Council, alongside other local authorities in Kenya, is likely to experience more aggression from members of the public, demanding for better quality services. The unprecedented proliferation of residents' associations is a suggestive indication that members of the public are not receiving value for their money in terms of services. This situation may culminate to public unrest and disruption of life and livelihoods in affected local authorities. Consequently, the Government should take necessary action in time to enforce accountability measures to improve service delivery by local authorities. The Government should give citizens more oversight power by opening up reporting channels, establishing hotlines and circulating these widely as well as decentralizing witness protection institutions to enhance accountability at the Council and other local authorities.

The Government should further enhance accountability by ensuring that local authorities comply with section 82 of the Local Authorities Act (Cap 265), which requires that all minutes of local authority proceedings should be available to all tax papers and voters. In addition, there is need for public engagements between the authorities and residents because increased exchange of information is likely to cultivate a sense of responsibility and accountability.The study relied on community members' perspectives to judge whether the quality of services delivered by the Council had improved or not, over the preceding two-year period. This approach has three inherent limitations. First, community perspectives are vulnerable to distortion by political beliefs, leading to prejudicial judgments. Even though we minimized the influence of this challenge by excluding previous political aspirants and Council employees, political bias remains a potential influence on community's perspectives about service delivery. Secondly, the study focuses on a reference period of two years; thus, the information sourced may be vulnerable to memory biases. Thirdly, the study is limited in terms of the scope of services – water supply, garbage collection, and sanitation. Future studies should adopt better approaches for gauging actual changes in service delivery, rather than rely on community perspectives. Besides, future studies should expand the scope in terms of service types to include other service areas such as education, health, housing, and transport, among others.

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BIOGRAPHY

Jackson Ongong'a Otieno is a senior economist at the Ministry of Devolution and Planning, Kenya. He holds a Master's degree in Project Planning and Management from the University of Nairobi, Master of Economic Policy Management from Makerere University and currently pursuing his PhD in Economics at the University of Cape Town, South Africa. His areas of research interests include intergovernmental fiscal relations; nature-based tourism; valuation of non-market environmental amenities; climate change and adaptation; rural development and income distribution and poverty. He is reachable through telephone number: +254 724 532 522 or email address: amimoj77@gmail.com

Dr. Paul A. Odundo is a Senior Lecturer at the Department of Educational Communication Technology, University of Nairobi, Kenya. He has over 15 years experience in capacity building, teaching and supervising students' projects at the University level. He became a Research Associate at Institute of Policy Analysis and Research (IPAR) in 2001. His academic and research interests include institutional capacity building, decentralized development, instructional planning and management, educational administration. His previous work appears in IPAR Discussion Paper Series, the Fountain: Journal of Education Research and African Journal of Business and Management. He is reachable at the University of Nairobi through telephone number, +254 020 318 262; Mobile numbers +254 0722 761 414; email address: odundopaul@yahoo.com

Dr. Charles M. Rambo is a Senior Lecturer and coordinator of Postgraduate programs at the Department of Extra Mural Studies, University of Nairobi, Kenya. His academic interests include financial management, small and medium enterprises, small-scale farming, and education financing. His previous work appears in journals such as Journal of Continuing, Open and Distance Education, International Journal of Disaster Management and Risk Reduction and the Fountain: Journal of Education Research, African Journal of Business and Management, African Journal of Business and Economics, as well as International Journal of Business and Finance Research. He is reachable at the University of Nairobi through telephone number, +254 020 318 262; Mobile numbers +254 0721 276 663 or + 254 0733 711 255; email addresses: rambocharles@yahoo.com or crambo@uonbi.ac.ke

INNOVATION AND INTERNATIONALIZATION AS A SINGLE STRATEGY OF THE FIRM: A UNIFICATION OF THEORIES

Moisés Alejandro Alarcón Osuna, Universidad Autónoma de Sinaloa

ABSTRACT

Recently, innovation and internationalization strategies have explained firm success. Some authors argue that innovation settles internationalization while some others point that internationalization settles the firm's innovation level. This work unifies these theories, arguing that both are a single strategy of the firm. We also argue that both theories are founded in the same set of variables like technological capabilities, technology investment, alliances and firm decision structure. Tests are based on correlation and regression analysis. We demonstrate the existence of a relationship between innovation and internationalization that can't be explained by separating them into separate theories.

JEL: M10, M13, M16

KEYWORDS: Innovation, Internationalization, Firm Strategy, Technology, Alliances, Decision Making

INTRODUCTION

Recently, firm innovation as a strategy to succeed and perform in markets, has taken on increased importance. Since the coevolution of technology, firm decision structure and the links between universities and firms makes a more dynamic market (Grandstrand, 1998). This new market dynamic has increased the intensity of changes and uncertainty (Schwens and Kabst, 2011). These changes encourage firms to invest more resources for firm innovation.

This dynamic has important effects. Because of this market uncertainty, firms often exploit more technological knowledge (Autio and Yli-Renko, 1998). This knowledge allows firms to enter new niches of markets (Schwens and Kabst, 2011; Autio and Yli-Renko, 1998) or to access larger markets seeking growth opportunities. In this sense, innovation is the main motor of change mechanism to reach firm success.

Many firms enter new markets for diversifying failure risk because of evolution of technologies, information, communications, transport, openness of new markets and mobility of capital and human resources (Fong and Ocampo, 2010). This encourages firms to conduct more value chain operations in foreign countries (Welch and Luostarinen, 1988). This openness to new markets increases resources that firms spend in technology and innovation to access them (Dabic, Daim, Aralica and Bayraktaroglu, 2012; Schwens and Kabst, 2011; Kafouros, Buckley, Sharp and Wang, 2008; Autio and Yli-Renko, 1998). In fact, these authors point out that firm innovation is a determining factor in the firm's internationalization level.

The aim of this work is to show the relationship between innovation and internationalization strategies. On one side, some internationalization authors argue that internationalization settles the innovation level (Dabic, Daim, Aralica and Bayraktaroglu, 2012; Kafouros, Buckley, Sharp and Wang, 2008, Peng, 2001). On the other side some authors argue that innovation determines internationalization (Sigh and Gaur, 2013; Chen, 2012; Chadha, 2009; Roper and Love, 2002; Wakelin, 1998).

It is important to note that these relationships are ambiguous, since there is not yet a clear causal relationship between them. Nevertheless, there are some studies (Kylaheiko, Jantunen, Puumalainen, Saarenketo and

Tuppura, 2011) showing that technological capabilities are affecting in the same way strategies of innovation and internationalization. In this sense, both theories are conceptualized as different strategies to improve firm performance. Therefore it is pointed that, the actual relation between these strategies has not reached a consensus for the direction of the causal relationship, since one is important for the other. In this way the proposal is to signal that both strategies are part of a single strategy of the firm.

The research is organized as follows, first we present a literature review where we discuss the state of art for innovation and internationalization theories from the Resources Based View. Next we describe the method of regression models used and the data source for statistical testing. The next section shows the results and discussion and compares them to the existing literature. The last section provides concluding comments.

LITERATURE REVIEW

This literature review begins by studying the Resources Based View (RBV), since both strategies are involved in this corpus. On one side, firm internationalization has been impregnated by the RBV (Peng, 2001) arguing that firms achieving success must acquire and develop valuable and not substitutable resources (Barney, 1991). These resources must be configured for not being imitable (Tecee, Pisiano and Shuen, 1997). In this sense firms wishing to achieve success in international markets must get or develop important resources and configure them to develop an internationalization strategy.

On the other hand, literature on innovation activities is closely related to RBV (Grandstrand, 1998). Firms wishing to innovate must acquire and develop important intangible resources (Grant, 1998), as well as knowledge and technology. For firms to achieve success, they must develop and redevelop products and services offered to changing market conditions (Grandstrad, 1998, Fong and Alarcón, 2010).

In summary, RBV is a theoretical corpus that explains, in part, the development of innovations and firm internationalization, by means of important resources and capabilities configured to create a firm strategy. In this sense, when the firm enters new international markets it is acquiring new knowledge to develop or redevelop their products and services (Peng, 2001). This process directly impacts the firm's innovation system. On the other hand, development of products and services (Grandstrand, 1998), impacts directly on opportunities to entry in new international markets with a competitive advantage through the development of resources.

The lack of clear evidence on the causal relation between internationalization and innovation is a new question. The aim of this study is to describe this relationship. We identified in the literature four variables that directly impact innovation and internationalization of the firm: Technological Capabilities, Technology Investment, Alliances and Decision Structure. These variables are significant resources and capabilities that firms must develop to succeed. We explain these variables in turn in the next sections.

Innovation, Internationalization and Technological Capabilities

One common approach to firm internationalization and innovation is through technological capabilities. Technological capabilities are seen as accumulated technological knowledge (Kylaheiko et al., 2011). This knowledge is used to develop new product or services to enter new markets. This knowledge also contributes to path-dependent technology and firm innovation potential (Cohen and Levintal, 1990).

Internationalization is a method to expose the firm to knowledge and technologies of foreign markets (Kylaheiko et al., 2011), thereby providing opportunities for developing new skills and capabilities, and contributing to path-dependent technology and innovation. Understanding this, it is said that technological capabilities impact directly on the firm innovation system through internationalization.

Innovation helps translate tangible and intangible resources into innovative product or services (Sigh, 2013). This in turn leads to a sustainable competitive advantage. We propose that technological capabilities makes it easier to internationalize the firm. We argue that technological capabilities directly impact internationalization through innovation.

Innovation, Internationalization and Technology Investment

Dabic et al. (2012) propose that firm investment is a key variable (Dabic et al., 2012). Investment allows the firm to acquire and develop new technology or technological resources. This also allows the firm to develop new products or services. Technology investment becomes a factor for firm internationalization, given that firms are capable of developing new product or services (Jiang, Yang, Li and Wang, 2011; Grandstrand, 1998) for entry into new markets.

Technology investment also becomes a factor for innovation. Firms can acquire or develop technology which represent tangible and intangible resources (Fong and Ocampo, 2010; Villalonga, 2004; Lev, 2001), and contributes to path-dependent technology and innovation. This represents a double effect of technology investment, impacting directly on internationalization and innovation.

Innovation, Internationalization and Alliances

Resource Dependence Theory (RDT) has roots in RBV and is receiving added attention. This theory explains the association between firms and institutions and firms and other firms (Dress and Heugens, 2013). It also explains the establishing of alliances through the requirement of resources and capabilities. This implies, that firms are acquiring, imitating or getting access to strategic resources that are important for the firm. But they do not change the value proposition of the firm because of the erosion of resources value, or because both firms are in different stages of their development (Fong and Alarcón, 2010).

The firm, through the establishment of alliances, can access new resources that are important for internationalization (Sigh and Gaur, 2013; Peng, 2001). Some examples are market power or distribution chains, because alliances can perform as associations for selling product or services in other countries. Establishing alliances also performs as an agent of innovation, since the firm is accessing new resources and configuring the strategy of innovation with new technologies acquired (Grandstrand, 1998; Cohen and Levintal, 1990). Thus, establishing alliances is a key factor for both innovation and internationalization.

Innovation, Internationalization and Firm Decision Structure

Strategic decisions have long-term consequences for firm success or survival (Sigh and Gaur, 2013). A fundamental issue in strategic management is the decision making of managers. There are several important factors of the decision structure impacting this decision making. One factor is family ownership, since family ownership reduces the agency conflict between owners and managers (Casillas, Moreno and Acedo, 2012; Carney, 2005; Zahra, 2003). Decision making by the family allows firms to make easier decisions of internationalization or to get more involved in innovation.

Other related variables affecting decision making is firm flexibility, allowing workers to decide on procedures, and the plans for developing employees and acquire or develop new intangible knowledge (Grant, 1998). If the firm develops their employees and lets them make their own decisions performance will increase. This performance increase allows the firm access new markets and to more prepared people to make innovations (Cohen and Levintal, 1990). In this fashion, the more flexible the decision structure, the more opportunities the firm will have to enter new foreign markets and make more innovations.

Finally, authors have noted the more prepared the director is (Sigh and Gaur, 2013), the more effective decision they will take. This decision will lead to enter, or not, new foreign markets, or will lead the firm to innovate or not. Given arguments about firm decision structure, we propose the firm decision structure affects directly on internationalization and innovation.

Hypothesis and Research Settings

Given the theoretical background, we propose that firm internationalization and innovation are configured in a single strategy to reach success. This implies that internationalization and innovation of the firm create a single effort to succeed in foreign markets and innovation activities. This effort is seen through technological capabilities, technology investment, alliances and the structure of the decision making. This relation is described in the Figure 1:

Figure 1: Set of Hypothesis and Model Frame

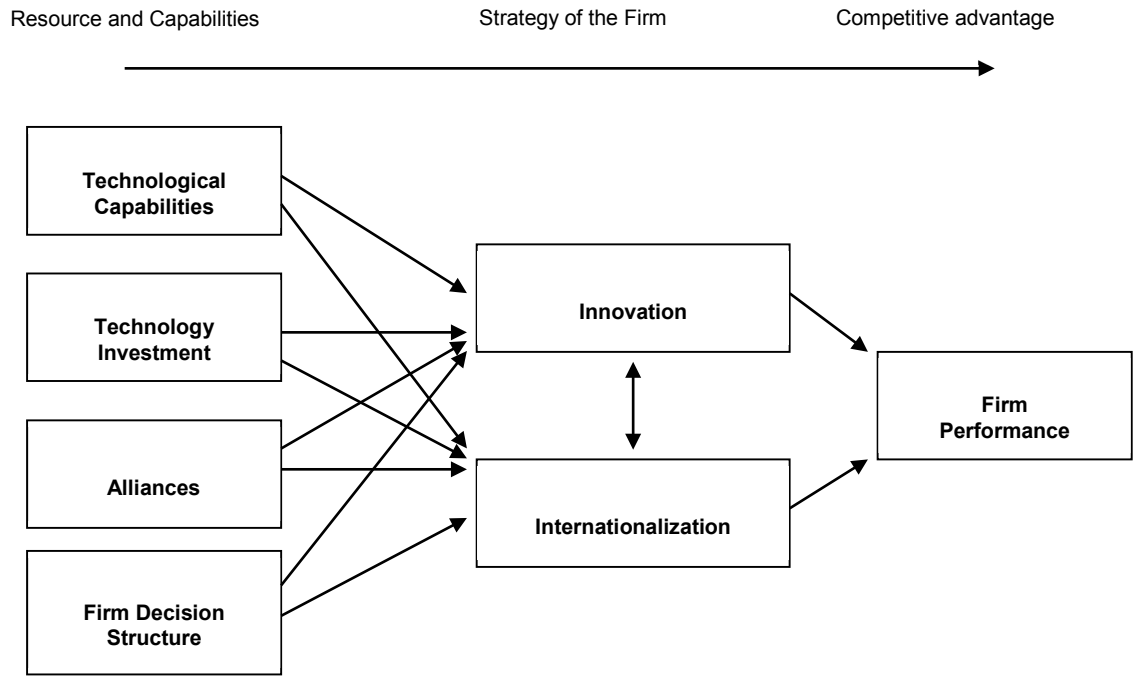

Figure 1: shows the key resources are Technological capabilities, Technology investment, Alliances and Structure of decision making. These resources impact both strategies of Innovation and Internationalization of the firm. By interacting with each other they become a single strategy to explain firm performance.

From Figure 1, we are going to test the hypothesis:

H0: Firm innovation strategy is the same as internationalization strategy

In other words the innovation and internationalization strategies of the firm are a single strategy. Innovation implies looking for new markets or accessing new markets, and internationalization implies innovation to obtain a competitive advantage in new markets. Innovation and internationalization are also determined by the same factors. This background supports the main hypothesis. Thus the same factors imply the next hypotheses:

H1a: Technological capabilities determine the innovation strategy of the firm.
H1b: Technological capabilities determine the internationalization strategy of the firm.

H2a: Technology investment determines the innovation strategy of the firm.
H2b: Technology investment determines the internationalization strategy of the firm.

H3a: Alliances determine the innovation strategy of the firm.
H3b: Alliances determine the internationalization strategy of the firm.

H4a: Decision structure determines the innovation strategy of the firm.
H4b: Decision structure determines the internationalization strategy of the firm.

According to Figure 1, the last two hypotheses are not tested because there are several studies that have examined this relationship between innovation and firm performance (Schwens and Kabst, 2011; Fong and Alarcón, 2010; Liang, You and Liu, 2010; Wu and Wang, 2007; Colombo and Grilli, 2005; Grandstrand, 1998; Autio and Yli-Renko, 1998) and internationalization and firm performance (Jiang, Yang, Li and Wang, 2011; Fong and Ocampo, 2010; Schmidt and Cavusgil, 2006; Calantone, Kim, Knudsen and Koed, 2002; Peng, 2001). Instead, we show descriptive statistic on the relationship between internationalization and firm performance and the relationship between innovation and firm performance.

DATA AND METHODOLOGY

Since firm innovation and internationalization seems to be the same strategy, in econometric language, it is said the relationship between them is not determined. The only way to know the causal relationship between them is to identify a variable that could determine a strategy, and then estimate the equilibrium relationship between them. Because this is not the case, the method proposed here is to see if a relationship between them exits is through correlation analysis with some proxy variables for innovation, internationalization and firm performance. We express a regression analysis for capturing the relationship described in the theoretical background.

The data source to test this hypothesis and for making the correlation and regression analysis, is a survey applied by the International Studies Department in collaboration with the Quantitative Methods Department of the University of Guadalajara in coordination with the Jalisco State Science and Technology Consul, in the city of Guadalajara in Mexico. The survey was conducted from February to July of 2010. This survey was applied to 57 firms in the metropolitan area of Guadalajara and was applied by bachelor students from the quantitative methods area. One observation has some lack of information. Thus this observation is deleted from the sample. The final sample includes 56 observations.

We estimate two regression models. One model is for capturing the effect of technological capabilities, technology investment, alliances and structure of decision taking on firm internationalization. The other is for testing the effect of the same variables on firm innovation. The two regressions are described in the next equations.

$$\frac{Export}{Sales} = \beta_0 + \beta_1(Innovation) + \beta_2(Technological) + \beta_3(TechInv) + \beta_4(Alliances) + \beta_5(Decision) + \beta_6(Control) + \varepsilon_i \quad (1)$$

$$\text{InnoTotal} = \beta_0 + \beta_1(Internationalization) + \beta_2(Technological) + \beta_3(TechInv) + \beta_4(Alliances) + \beta_5(Decision) + \beta_6(Control) + \varepsilon_i \quad (2)$$

The term Innovation refers to the vector of innovation proxy variables. Technological refers to the technological capabilities proxy variables. Decision refers to the vector of decision structure proxy variables. ε refers the error term. The equations have the same set of independent variables, except for the

innovation and internationalization proxy variables. The aim of these equations is to show there exists correlation between the two dependent variables. Also, it is the only way to show the relation between them because there is a lack of one single dependent variable to identify at least one of the two models. The variables used in this work for correlation and regression analysis are described in Table 1.

Table 1: Description of Variables for the Study

Variable	Description	Scale of mesure
Internationalization Proxy Variables		
Expor/Ventas	The ratio of export sales divided by the total sales	From 0 to 1
Inter	Level of internationalization	1: exports; 2:distributes products in foreign countries; 3: external filial; 4:establishment in other countries; 5:international corporate
Expor	If the firm exports or not	0: no and 1: yes
ExternalCap	External capital	From 0 to 1
Internationalization Proxy Variables		
InnoTotal	Total number of innovations	Real numbers
InnoProPro	Proactive innovation in products	0: no and 1: yes
InnoServPro	Proactive innovation in services	0: no and 1: yes
InnoProChg	Speed of reacting to changes in market products	1: minimum; 2: medium inferior; 3: medium; 4: medium superior; 5: maximum
InnoServChg	Speed of reacting to changes in market services	1: minimum; 2: medium inferior; 3: medium; 4: medium superior; 5: maximum
Technological Capabilities Proxy Variables		
RDDepart	R&D Departament	0: dont have; 1: have
RDSpend	R&D Expenditures of the total sales	From 0 to 1
RDAgree	R&D Agreements	Number of R&D agreements
Technology Investment proxy variable		
TechInv	Technology Investment of the total sales	From 0 to 1
Alliances Proxy Variable		
Alliances	Number of alliances	Number of alliances
Decision Taking Proxy Variables		
Family	Family ownership	0: no and 1: yes
WorkAut	Autonomus Worker decision taking	0: no and 1: yes
IndDev	Formal development plan for the workers	0: no and 1: yes
DirEsc	Degree of education of the director	1: no university; 2: bachelor; 3: especialization; 4: master or PHD
Control Variables		
Sector	Manufactoring sector	0: no and 1: yes
Age	Age of the firm	In months
Size	Number of employees	Number of employees
Performance Proxy Variables		
SalesPer	Percentage of change in sales agaist past year	From 0 to 1
ProfitPer	Percentage of change in profit agaist past year	From 0 to 1

The first column shows the variable name. The second column shows the description of the variable and third column shows the scale measure of the variable.

The first equation uses the dependent variable, ratio Export/Sales, because it is the most common variable for explaining firm internationalization (Fong and Ocampo, 2010). The only problem with this variable is that it is a corner solution in mathematical language. Because firms have the choice to export or not to export. This problem leads to a double distribution probability in the variable. The solution proposed for estimating this equation is a Tobit model, since it considers this information, and is a more confidential method for this estimation.

In the second equation we use InnoTotal as the dependent variable because it is the most common variable for explaining firm innovation (Sigh and Gaur, 2013; Chen, 2012). The method for this regression is least squares, since it is a normal variable. For both equations heteroskedasticity was corrected by the White method of Standard Errors.

RESULTS AND DISCUSSION

In this section results are shown for the correlation and regression analysis. The research settings are contrasted against both sets of results. Then, results are discussed from the literature review expected outputs. First we show results for the correlation analysis between performance proxy variables and innovation and internationalization proxy variables, these results can be seen in Table 2.

Table 2: Correlation Analysis

	ProfitPer	SalesPer
InnoTotal	-0.005	0.032
InnoServPro	0.173*	0.038
InnoServChg	0.102	0.031
InnoProPro	0.068	0.075
InnoProChg	0.080	0.151*
Expor	-0.088	0.053
Export/Sales	0.116	0.212*
Inter	0.295*	0.091
ExternalCap	0.220*	0.267*

The table shows there exists a lineal relationship between innovation and internationalization proxy variables and performance proxy variables. The significance levels are as the next * 10%, ** 5% and *** 1%.

Table 2 shows the existence of a positive lineal relationship between innovation and internationalization proxy variables and performance proxy variables. These relationships are stronger considering firm profits rather than sales. There is only one negative correlation. This is the relationship between the decision whether to export or not and profits. This may be because the first variable is binary and the second is a continuous variable. It is common to find some nonlinear relationship in these kinds of analysis (Lehmann and Casella, 1998). The relationship between InnoTotal and profits produces a negative coefficient, but it is close to zero meaning there isn't a relationship between these proxy variables.

All significant correlations are positive implying a lineal relationship between the variables. The most significant relationships in innovation on performance, are InnoServPro and InnoProPro. This implies proactive innovation increases firm performance. With regard to internationalization and performance, the most significant variables are Inter, Expor/Sales and ExternalCap.

So correlation analysis shows a positive relationship between Innovation and Internationalization and firm performance, and there is no need to make additional analysis for testing this relationship in this study. On the other hand, Table 3 shows the results of both regression analysis to test the relationship between Innovation and performance. For both regressions the almost perfect collinear variables were drop from the analysis.

Table 3 shows the regression analysis. Both are globally significant by considering the F-statistic (0.45 and 2.69 for first and second model) and the Adjusted R-squared of 0.33 for both. The two models can't be directly comparable, since in the internationalization model used a Tobit regression analysis which in turn is a nonlinear regression. The second model uses a multiple linear model. This means we can only compare the signs of the coefficients and the significance level. The discussions of the results follow.

Table 3: Results of Regression Analysis

Equation 1: Model of Internationalization			Equation 2: Model of Innovation		
Variable	**Coefficient**	**Std. Error**	**Variable**	**Coefficient**	**Std. Error**
Proxy Variables for Innovation			**Proxy Variables for Invernationalization**		
InnoTotal	0.001*	0.000	Export/Ventas	7.310	11.200
InnoProChg	-0.070***	0.030	Inter	-9.350**	4.040
InnoProPro	0.300***	0.100	ExternalCap	42.260*	21.030
InnoServPro	-0.350***	0.080			
Proxy Variables for Technology Investment			**Proxy Variables for Technology Investment**		
TechInv	-0.580***	0.230	TechInv	-41.540*	20.920
Proxy Variables for Technological Capabilities			**Proxy Variables for Technological Capabilities**		
RDAgree	-0.050	0.200	RDAgree	67.700**	31.330
RDSpend	0.010	0.020	RDSpend	6.940**	3.050
RDDepart	-0.780**	0.330	RDDepart	52.140	46.130
Proxy Variables for Alliances			**Proxy Variables for Alliances**		
Alliances	0.010	0.010	Alliances	0.960	1.08
Proxy Variables for Structure of Decision Making			**Proxy Variables for Structure of Decision Making**		
Family	0.180**	0.070	Family	1.800	6.470
IndDev	0.080	0.070	IndDev	-16.700*	8.660
DirEsc	0.020	0.040	DirEsc	10.240**	4.800
WorkAut	0.160**	0.060	WorkAut	-16.550**	6.660
Control Variables and Intercept			**Control Variables and Intercept**		
Intercept	0.650***	0.250	Intercept	-34.810	30.380
Size	0.001	0.001	Size	0.030	0.030
Age	0.001	0.010	Age	-0.010	0.040
Age-squared	0.001	0.001	Age-squared	0.001	0.001
Sector	0.210***	0.070	Sector	1.610	6.270
Total Obs	56		Total Obs	56	
R-squared	0.55		R-squared	0.53	
Adjusted R-squared	0.33		Adjusted R-squared	0.33	
S.E. of regression	0.24		S.E. of regression	18.83	
Sum squared resid	2.20		Sum squared resid	13,468.30	
Log likelihood	-7.91		Log likelihood	-229.31	
F-statistic	0.45**		F-statistic	2.69***	

*Both regression models are shown with the same independent variables. Innovation explains the internationalization, but also innovation explains internationalization. Both models have an acceptable level of confidence (F-statistic) and because of this all variables are included in both regression models. Also, the R-squared is high in both regression, adjusting the forecast to the true values. The only difference in the two models is that the first model is a Tobit Censured regression and the second is a Multiple Linear Regression. The significance levels are as the next * 10%, ** 5% and *** 1%.*

The Relation between Innovation and Internationalization

The results of the first model are significant, since the innovation proxy variables significantly explain the Export/Sales proxy variable for internationalization. The meaning of the coefficient signs is as follows, InnoTotal and InnoProPro are as we expected, since total innovations and proactive in product innovation are important for firm internationalization. On the other hand proactive in innovating services and innovating in services just for the adaptation to the market changes are not important factors for internationalization. The result of these last two variables are consistent to those of Catalone *et al.* (2006).

The second model results are also as expected. The first proxy variable Export/sales has the expected sign as well as the ExternalCap variable. Level of internationalization measured by the variable "Inter" does not explain firm innovation. This means the most important incentives to innovate are the ratio of Exports/Sales and the external capital in the firm, but not if the firm is operating the production outside the country.

The results show a strong relation between firm Internationalization and Innovation. Finding new markets or establishing part of the production in other countries requires the firm to innovate. On the other hand, firms establishing production in other markets or selling part of the production in other markets, leads to new knowledge which in part leads the firm to innovate.

Technology Investment, Innovation and Internationalization

The results of technology investment is with a different magnitude than expected. It has a negative sign for both regressions. In other studies like Coeurderoy and Murray (2008) results show in a logistic regression a negative relationship in the occasional technology investment. Results show internationalization of the German firms, and a similar result with respect to innovation and technology investment in Monreal, Aragon and Sánchez (2012); Dabic et al. (2012) and Roper and Love (2002). It can be supposed the existence of idiosyncratic error in the estimation, because some other studies (Monreal et al, 2012; Dabic et al, 2012; Coeurderoy and Murray, 2008; Roper and Love, 2002) show there exist a negative relationship between these variables. But, this is still an assumption. In these kind of studies there exist a lagged variable with respect to time explaining this relationship. This implies rejection of the H2a and H2b hypothesis of a positive relationship between technology investment and innovation and internationalization.

Technological Capabilities, Innovation and Internationalization

For both regression models there exists a positive relationship between R&D expenditures and innovation and internationalization. This means this is the best proxy variable for measuring this relationship rather than a R&D department and R&D agreements. From this, we do not rejected the H1a and H1b hypothesis, which means that innovation and internationalization depends on R&D expenditures.

Alliances, Innovation and Internationalization

The magnitude and sign of the alliances coefficient for both models are as expected. Technically the only discussion is the significance level since for both models this coefficient is not individually significant. But, considering the F-statistic and R-squared, the inclusion of this variable in the model is justified, not rejecting the H3a and H3b hypothesis. This finding means that strategic alliances are important to access new markets or for accessing new knowledge to innovate.

Firm Decision Structure, Innovation and Internationalization

For the first regression all proxy variables of decision making structure have the expected sign and some of them are statistically significant. For the second model only Family and DirEsc has the expected sign. This in turn means they are proxy variables that better explain the relationship between firm innovation and decision structure. The coefficient of IndDev and WorkAut are not as expected but they are statistically significant, which is consistent with other works (Monreal et al., 2012; Kafouros et al., 2008). With this result we can't reject the H4a and H4b hypotheses. This finding implies that decision structure has a positive relationship with internationalization, and sometimes it has a positive relationship with innovation.

CONCLUDING COMMENTS

We propose that innovation and internationalization strategies are a single strategy of the firm. Both factors determine firm performance and the same factors (technological capabilities, technology investment, alliances and the decision structure) settle these strategies. The combination lead us to test the theory.

We use correlation analysis to test the relation between strategies and firm performance. The results show a positive relationship, implying the first argument is not rejected since innovation and internationalization

impact positively on firm performance. Second, we propose two regression analysis. In these models we tested the influence that technological capabilities, technology investment, alliances and the firm decision structure have on the both strategies (innovation and internationalization). We find this results in a positive relation (except for the technology investment). This means the same kind of factors determine both strategies in the same direction. This confirms the main hypothesis of innovation and internationalization as a single strategy of the firm, which in time unifies these theories in a single strategy.

Overall the reader must consider there is a relationship between innovation and internationalization. This relationship can't be expressed one-way in terms of a causal relationship. The variables are interacting. In fact, it can be said there is only a single strategy of the firm. This strategy is based on the same factors that involve internationalization and innovation. The logical conclusion is that innovation activities lead to internationalization, and internationalization leads to innovation. The same factors build a single strategy for innovation and internationalization within the firm (as shown with the regression analysis), which in turn leads to better performance in terms of sales and profits (as shown with correlation analysis).

The main limitations of this research are related to the sample. In the survey, firms were selected only from the metropolitan zone. The results may be subject to change if future surveys take into account the rural areas. In rural areas firms have access to different resources and are restricted to different public policies. In addition, this survey was taken in a specific year (2010). Future research might attempt to capture changes over time in these activities of internationalization and innovation.

Future research should take into account the Born-Global and Uppsala models of internationalization, where intangible resources play an important role for internationalization and thus for innovation. In addition, future research should consider the context of Technology Based Firms (TBF) for innovation and the technology transfer that plays an important role for firm innovation and internationalization.

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BIOGRAPHY

Moisés Alejandro Alarcón Osuna: Ph.D. In Economy and Management Sciences by the University of Guadalajara, Member of the National System of Researchers Level C, and Professor-Researcher at the Autonomous University of Sinaloa IIES. He can be reached at: Instituto de Investigaciones Económicas y Sociales, Universidad Autónoma de Sinaloa campus Culiacán, Josefa Ortiz de Domínguez s/n Ciudad Universitaria C.P. 80040, Culiacán Rosales, Sinaloa, México, Tel. (01667) 713-38-03, alarcon93@hotmail.com.

CHARACTERIZATION OF INFORMAL CROSS-BORDER TRADERS ACROSS SELECTED BOTSWANA BORDERS

Njoku O. Ama, University of Botswana,Gaborone, Botswana
Kagiso T. Mangadi, University of Botswana, Gaborone, Botswana
Helen A. Ama, University of Botswana, Gaborone, Botswana

ABSTRACT

This study was cross-sectional and used the quantitative (survey methods) and qualitative methods (Focus Group Discussion and Key Informant Interviews) to characterize the informal cross-border traders drawn from four major activity border posts in the northern and southern parts of Botswana. The systematic random sampling and snow ball techniques were used in identifying the 520 informal cross-border traders who participated in the study. The study analysed the demographic characteristics of the traders, main commodities they traded on, the sources and amount of start-up income, reasons for participating in informal cross-border trade (ICBT), the extent of profit generated from the trade, major constraints faced by the traders, and factors that significantly predicted profit generated from ICBT. The study recommends that government should recognize ICBT and provide enabling facilities and infrastructure to ease delays at the border posts, minimize stiff trade completions and ease transportation for ICB traders. A nationwide study covering all the 21 border posts needs to be embarked on to provide data necessary for monitoring the informal cross border trade in Botswana.

JEL: F13, F16

KEYWORDS: ICBT, Qualitative, Quantitative, Multiple Regression, Cross-Sectional, Agricultural Products And Output, Industrial Goods, Characterization.

INTRODUCTION

Informal cross-border trade (ICBT) has been defined as a form of trade that is usually carried out by small businesses and unrecorded in official statistics; trade in legitimately produced goods and services, which escape the regulatory framework set by the government, and as such avoiding certain tax and regulatory burdens (Njiwa, 2013; Afrika and Ajumbo, 2012).

Statistics show that informal cross border trade contributes 30-40% of intra-Southern African Development Community (SADC) trade. An ILO study conducted in 2004 notes that trade is the most important source of employment among self employed women of sub-Saharan Africa, providing 60% of non-agricultural self employment (Wanjiku, 2011; Motsetsa, 2011; CSO, 2009).

Although some information about informal cross-border trade exists in the Southern African Development Community (SADC), of which Botswana is a member (Mijere, 2009; Njiwa, 2013;Njiwa et. 2010; Peberdy, 2000; Wanjku et al 2011), there has been no empirical study on the informal cross-border trade in Botswana. Appropriate information on who they are, the characteristics of these traders, the extent of their involvement in the trade, products traded on, factors that influence participation of men, women and youths in ICBT, profitability of the trade and their challenges, the number of informal cross-border traders, geographical location, funding sources and countries of destination, among other indicators are hardly available Yet these information are very crucial to the country to determine the contribution of this trade to the economy of Botswana. Specifically, for ICBT to encourage entrepreneurial activity and regional trade, and contribute

to greater food security and enhance income earnings and employment opportunities for the vast population of Botswana, an understanding of the present operations of the trade is very vital.

This paper, which is extracted from the result of a study on Informal Cross-border Trade between Botswana and its neighbouring countries (Ama and Mangadi, 2012), and carried out between January and September 2012, has been able to fill this gap in information on the informal cross-border trade activities at selected borders in Botswana. This information, together with a methodology and analytical procedure adopted in the study could enhance a nationwide study that will provide holistic information for monitoring the informal cross-border trade across the country.

The remaining part of this paper is organized as follows: The next section examines the related literature and develops the scope of this research study. We then describe our data and methodology and discuss the results of our empirical findings. The final section is the conclusion.

LITERATURE REVIEW

Unemployment and poverty have contributed to the informal sector becoming the fastest growing sector of the labour force between 1995 and 1996 in Botswana. This sector is dominated by women. The Botswana Informal Sector Survey 2007 estimates a total number of 44,277 informal traders, of which 28,183 (63.7%) were females (CSO, 2009). These were predominantly operating from homes, managed by individuals and mainly in the wholesale and retail business and contribute to a significant proportion of their livelihoods (Motseta, 2011). The 2005/2006 Botswana labour force survey indicates that of the total employed persons, 52.4% were males whilst 47.6% were females (CSO, 2008). The Household Income and Expenditure Survey 2002/2003 and the Botswana AIDS Impact Survey II (CSO, 2005) show higher unemployment rates for women compared to men.

Alusala (2010) and Njikam and Tcshouassi (2011) have stated that ICBT involves bypassing border posts, concealment of goods, under-reporting, false classification, under-invoicing and other similar tricks. In addition, it has the following characteristics: (i) it involves small entrepreneurs; (ii) traders do not access preferential tariff agreements; (iii) traders may buy, or more often sell, in informal sector markets; and (iv) traders do not always pass through formal import and export channels and may be involved in smuggling of part or all of their goods.

Although it is difficult to get an accurate overview of the extent of informal cross-border trade in Sub-Saharan Africa, in general and Botswana, in particular, surveys suggest that it still represents a significant proportion of regional cross-border trade and has been able to wield much impact in the economy of nations. For instance, trade in the Sub-Sahara Africa is the most important source of employment among self-employed women and provides 60% of non-agricultural self-employment (ILO 2002). In West and Central Africa, women in Cross-border Trade (WICBT) "employ 1.2 people in their home businesses; support on average 3.2 children as well as 3.1 dependents who are not children or spouses" (Oculi n.d, p. 8). The contributions of this trade to national GDP are as follows: 64% of value added in trade in Benin; 46% in Mali and 41% in Chad (Charmes, 2000).

Despite the fact that WICBT addresses vital issues of livelihoods such as food and income security, yet they are neglected by mainstream trade policies and institutions, thus undermining the profitability of their activities. Informal cross-border trade (ICBT) has been estimated at up to 60% of all intra-regional trade and between 30-40 percent of total intra-SADC trade (Afrika and Ajumbo, 2012). According to the United Nations Development Fund for Women (UNDFW), in the SADC region, women constitute about 70 percent of the informal cross border traders (Njiwa et al 2010). In the Western and Central parts of Africa, women constitute nearly 60 percent of informal traders. Women are said to compose up to 80% of all informal cross-border traders and the impact of informal cross border trade (ICBT) is significant (IWACU,

2012). By ignoring informal cross border trade, SADC member States could be overlooking a significant proportion of their trade.

ICBT is often considered as offering a lot of employment and income opportunities to women traders (Jackson, 1996 and Cagatay & Ozler, 1995). Thus, the ICBT appears to play a vital role in alleviating poverty and promoting women, men and youth economic empowerment (Chen et al., 2006). Traders engage in ICBT as a source of income and economic activity. Most traders have no education and raise capital from their own resources or through loans from friends and relatives. Traders are generally not bankable nor do they have assets that Banks would accept as collateral (Afrika and Ajumbo, 2012). They can also be formally registered firms evading regulations and taxes or aiming to avoid border crossing posts. Broadly speaking, those involved in ICBT fall under the following three categories (Figure 1).

Figure 1: ICBT Categories

Category A	Category B	Category C
Informal (unregistered) traders or firms operating entirely outside the formal economy	Formal (registered) firms fully evading regulations and duties (e.g. Avoiding official border crossing posts)	Formal (registered) firms partially evading trade-related regulations and duties by resorting to illegal practices

Source: OECD Trade Policy Working Paper No.86, 2009.

Those involved in this type of trade are not only men and women, but also youths and children who use various means to move merchandise in both small and large quantities across international borders.
Masinjila (2009) highlighted some of the challenges faced by women participating in this trade as follows: Lack of enough information disseminated by official sources or people who know it and the absence of official structures for disseminating such information to women and even male traders; the corruption that thrives on ignorance, fear and impunity of government officials at border posts; insufficient education and lack of access to financial services.

The objective of this paper, based on a survey of 520 ICB traders, key informant interviews and focus group discussions, is to ultimately raise awareness of the socioeconomic and demographic characteristics of the informal cross-border traders in Botswana. Specifically, the paper will determine (i) the socioeconomic and demographic characteristics of informal cross-border traders in Botswana and the commodities they trade in, (ii) the sources of income for ICBT, (iii) the factors that influence participation in ICBT (iv utility of ICBT and (iv) the business and institutional obstacles facing informal traders and how these obstacles are overcome.

DATA AND METHODOLOGY

Location of Study

The study surveyed 520 women and men in informal cross-border trade across four major entry points into Botswana: Tlokweng Gate- Koptontein (South Africa), Kazungula Ferry (Zambia), Ngoma border (Namibia) and Kazungula Road Border (Zimbabwe) between January and December 2012. These four border sites were mainly selected because of the relative importance and volume of informal cross-border trade taking place across them. The choice of women and men traders for this study was to examine the gender differentials in ICBT. The study used both quantitative and qualitative methods. In addition to the survey of the women and men, documentary analysis, key informant interviews with border officials and other government personnel and focus group discussions (FGD) were conducted..

Instrument for the Study

Two instruments were used for the study, namely the questionnaire for ICB traders and structured questions for the key informant interviews and focus group discussions (FGD). The questionnaire was developed with the assistance of the literature in ICBT (UBOS, 2008; UN Women, 2008-Tanzania) and consisted of closed and open-ended questions. The open-ended questions gave the traders an opportunity to give their opinions about the various issues involved. The questionnaires covered several areas such as demographic characteristics of the ICB traders, socioeconomic situations, access to resources and services, implications and effects of ICBT, constraints related to ICBT, and strategies they used to overcome the constraints faced.

Pre-testing of Questionnaire

The questionnaire and the structured questionnaire were pre-tested using ICB Traders at one of the border posts and necessary corrections made before being used for the main study. The Cronbaach's alpha coefficient of reliability of the instruments was calculated as 0.90.

Sampling Design

Given the fact that no data exists on the number of men, women and youths in informal cross border trade, the study used a total number of informal trade businesses owned by men, women and youth (44, 277) as a proxy for the total target population (CSO, 2009). Using the sample size calculator at 95% confidence level (allowing an error margin of 5%), the minimum statistically appropriate sample size was determined as 381 (The Creative Research System, 2012). However, 40% of this statistically determined sample size was added to allow for increased power and take care of those who may be reluctant to participate in the interview. This gave a sample size of 533 for ICBT study. This sample size of 533 was allocated to the border posts using proportional allocation to size (PPS), where the size represents the number of men, women and youth who used the border posts in the past one year.

Two sampling methods were employed in the study. The systematic random sampling whereby every third ICB trader at the border was interviewed in each of the border on a given day. This method was augmented by the snowball technique whereby an identified ICBT was asked if s/he knows any other person who is involved in informal cross-border trade. The advantage of this method is that it helped in identifying informal cross-border traders who do not use the official border posts. The snowball technique is advantageous over the house-to-house survey as the latter is associated with a largely quantitative tradition of measuring the rare event that often suffers from a lack of responses from the particular rare event such as maternal death in this study, whereas snowball sampling involves locating the household with the rare event through key informant approach. Snowball sampling has been found to be economical, efficient and effective (Snijders, 1992). Key informant persons within the Ministry of Trade and Industry, customs and immigration officers at the border posts were identified and interviewed.

Data Collection: Research assistants were trained on questionnaire administration and ethics of conducting surveys. The criteria for a person to be chosen as research assistant were based on her/his knowledge and skills in interviewing and knowledge of ICBT business. All research assistants were trained to observe keenly what was going on at the borders, what the informal cross-border traders (ICBTs) were trading in, how they were behaving in terms of apparent freedom to disclose information and their interaction with peers, customers and government officials at the border posts.

They explained to the traders the purpose of the study, assured them of confidentiality of information provided, and informed them that they was no monetary compensation for participating. Furthermore, the participants were informed that they can bow out of the study at any time they desired to do so without jeopardizing the survey. For those who accepted to participate they signed a consent form and proceeded

with the interview. As the ICBTs are on a business trip, those who could not be interviewed at the border posts gave their telephone numbers and other contact details to the researchers. They were traced to their homes or workplaces with this contact information for the interview. At the end of the study, 520 ICBTs completed the questionnaires giving a response rate of 98%. Four focus group discussions and two key informant interviews were conducted.

Limitations of the study: Trade and cross border trade in particular is a very sensitive topic when discussed by people who make their living from it. The respondents are likely to be concerned about why they were asking them the questions and what the interest of the researcher really is. They are likely to exercise fear of possibility of collecting information being passed on to government authorities such as tax departments. Others may think that the research assistants are agents of income tax department disguised as researchers. All these are likely to affect the truthfulness of respondents despite good effort to reassure respondents that information provided were not going to be divulged to any other source.

RESULTS

The demographic characteristics of the surveyed informal cross border traders are shown in Table 1. The percentage of males and females in the studied sample were 39% and 61% respectively. The majority of the female traders (29%) were between ages 31 to 35 years, followed by those 36-40 years (21%) while 30% of the males were either 26-30 years or 31-35 years. By the definition of youths in Botswana, the sample can be described as consisting of mainly youths (18-35 years) (77% of males and 67% of females).

Table 1: Demographic Characteristics of the Respondents

Demographic Characteristics of traders		**Sex of respondent**			
		Male		**Female**	
		Frequency	**%**	**Frequency**	**%**
Age of respondent	18-21	9	5%	13	4%
	22-25	24	12%	41	13%
	26-30	60	30%	59	19%
	31-35	61	30%	99	31%
	36-40	26	13%	67	21%
	41-45	12	6%	19	6%
	46 and above	9	5%	21	7%
Employment status	Employed in the public sector	22	11%	37	12%
	Employed in the private sector	32	16%	31	10%
	Self-employed	87	43%	121	38%
	Unemployed	60	30%	130	41%
Marital status	Single (never married)	85	42%	140	44%
	Married	58	29%	108	34%
	Divorced	15	8%	23	7%
	Widowed	0	0%	16	5%
	Cohabiting	43	21%	32	10%
Highest educational qualification	No schooling	16	8%	12	4%
	Primary Certificate	21	10%	29	9%
	Junior certificate of education	39	19%	67	21%
	Secondary school certificate / Diploma	61	30%	105	33%
	University Degree	37	18%	62	19%
	Professional Certificate	22	11%	44	14%
	Others	5	3%	0	0%
Number of years on ICBT	1-5	166	83%	237	74%
	6-10	29	14%	71	22%
	11-15	6	3%	11	3%

This table shows summary statistics of the sample.

More female traders (41%) than male (30%) were unemployed while more male traders (43%) than female (38%) were self- employed. While 22% of the females were employed in either the public sector or private

sector the corresponding percentage of the males was 27%. A slim majority of the female traders (33%) and male traders (30%) had secondary school certificate/Diploma; 21% of the females and 19% of the males had junior certificate while 19% of the females and 18% of the males had a university degree. More males (8%) than females (4%) had no education. The single (never married) ranked highest (44% of the females and 42% of the males); 29% of the males and 34% of the females were married while 21% of the males and 10% of the females were cohabiting. An overwhelming majority of the traders (83% of males and 74% of the females) had been in the ICBT for only 1-5 years while 15% of the males and 27% of the females had been in the trade since 6-10 years. Close to 58% of the businesses were located in Botswana, 18% were located in Zambia while about 10% were either in Namibia or Zimbabwe, respectively and 5% in South Africa.

Agricultural products and outputs (40%), industrial goods (27%), services (10%) and textiles (8%) are the four most traded commodities. The composition of goods traded on shows gender specific differences with more women (59%) engaged in trading on agricultural products and outputs than men (41%), industrial products (42%, men; 58%, women) and services (33 men; 67%, women) (Table 2). Men trade more on mining (80%) and forestry resources (67%).

Table 2: Commodities Traded

The main commodity traded on	Sex of respondent					
	Male		Female		Total	
	Number	%	Number	%	Number	%
Mining	4	80	1	20	5	100
Agricultural products and inputs	86	41	124	59	210	100
Industrial goods	59	42	82	58	141	100
Services	17	33	34	34	51	100
Forestry resources	24	67	12	33	36	100
Textiles	8	19	34	81	42	100
Cosmetics and body products	3	13	21	88	24	100
Tupper ware products	0	0	2	100	2	100
Leather shoes	0	0	7	100	7	100
Hair products	0	0	2	100	2	100
Total	201	39	319	61	520	100

This table shows commodities traded by gender.

Table 3 shows the nineteen most imported goods into Botswana by the ICB traders. The table reveals that clothes (41%), shoes (29%), bags (25%), beans (14%), cooking oil (14%), potatoes (14%), bananas (13%) and saucepans (13%) were the top most imported goods. The gender differentials in the types of products imported show that generally, and except in the importation of timber where the men exceeded the women (male, 57%; female 43%), women are greater importers of clothes (female, 71%; male, 29%), shoes (female, 61%; male, 39%), bags (female, 29%; male, 19%), beans (female,72%; male, 28%), and cooking oil (female, 62%; male, 38%).

Table 4 shows the 15 most exported products by the ICB traders from Botswana. Top of the list of the products are shoes (23%), beans (23%), maize grains (22%), clothes (18%) and aggro vet drugs (12%). When the major exports are analysed by gender participation in ICBT, the results show that more women than men export shoes (female, 57%; male, 43%), beans (female,61%; male, 19%), maize grains (female, 61%; male, 39%), clothes (female, 62%; male, 38%), agro vet drugs (female, 53%; male, 47%). On the other hand, the men are greater exporters of fish (female, 41%; male 59%), human medicine (female, 45%; male, 55%), millet (female, 47%; male, 53%) and sorghum (female, 44%; male, 56%), fishing nets (female, 39%; male, 61%). These export products are likely to be re-exports as Botswana does not produce most of commodities in bulk.

Table 3: Nineteen Most Imported Goods by the ICB Traders (n=501)

Top 19 goods imported by traders	Sex of respondent				Total	
	Male		Female			
	Number	%	Number	%	Number	%
Hair products	4	26.7	11	73.3	15	3.0
Fish Mows	4	20	16	80	20	4.0
Timber	12	57.1	9	42.9	21	4.2
Peas	7	23.3	23	76.7	30	6.0
Cosmetics	2	6.7	28	93.3	30	6.0
Fish	12	32.4	25	67.6	37	7.4
Milk	12	29.3	29	70.7	41	8.2
Rice	15	34.1	29	65.9	44	8.8
Soap	17	33.3	34	66.7	51	10.2
Coffee	22	42.3	30	57.7	52	10.4
Maize Grains	26	48.1	28	51.9	54	10.8
Saucepans	27	42.2	37	57.8	64	12.8
Bananas	22	33.8	43	66.2	65	13.0
Potatoes	26	37.7	43	62.3	69	13.8
Cooking Oil	27	38	44	62	71	14.2
Beans	20	27.8	52	72.2	72	14.4
Bags	36	28.8	89	71.2	125	25.0
Shoes	57	39.3	88	60.7	145	28.9
Clothes	60	29.1	146	70.9	206	41.1

This table shows the most imported goods by gender.

The traders were asked to indicate what prompted them to engage in ICBT. Their responses are shown in Table 5. ICBT as a source of income for the families ranks highest among the women and men (about 49%) as the push factor for participating in ICBT. More women (73%) than men (27%) consider it as a form of business/employment; as a forum to share ideas (male, 29%; female, 71%) and as a source of income for the family (male, 39%; female, 61%). On the other hand, more men (60%) than women (40%) participated in ICBT because it was a source of food security; the trade helped them to overcome poverty (male, 58%; female, 42%), and because of the peoples' demand for foreign goods (male, 55%; female, 45%) (Table 5).

ICBT is the main source of income for the families of the traders (65%). The gender differential in response to the question "what is the main source income for the family?" shows that more women than men consider ICBT (60%), spousal formal employment (69%), farming (65%) and my own employment (76%) as the main source of income for the family (Table 5).

Table 4: Fifteen Most Exported Goods by the ICB Traders (n=501)

Top 15 exported products	Sex of respondent				Total	
	Male		Female			
	Number	%	Number	%	Number	%
Shoes	29	42.6	39	57.4	68	23.1
Beans	26	38.8	41	61.2	67	22.7
Maize Grains	25	39.1	39	60.9	64	21.7
Clothes	20	37.7	33	62.3	53	18.0
Agro Vet Drugs	17	47.2	19	52.8	36	12.2
Fish	17	58.6	12	41.4	29	9.8
Sandals	9	31.0	20	69.0	29	9.8
Human Medicine	16	55.2	13	44.8	29	9.8
Maize Flour	12	42.9	16	57.1	28	9.5
Sorghum	14	56.0	11	44.0	25	8.5
Beer	11	47.8	12	52.2	23	7.8
Bed Sheets	5	26.3	14	73.7	19	6.4
Millet	10	52.6	9	47.4	19	6.4
Fishing Nets	11	61.1	7	38.9	18	6.1
Blankets	9	52.9	8	47.1	17	5.8

This table shows exported goods by gender.

One advantage of ICBT over all other forms of business enterprises is that it can be started with very small money and sometimes from family savings. The ICB traders were asked to indicate the source of the initial capital they used to start the trade. Their responses shown in Table 5 represent the main sources of the initial income for ICBT. The majority of the respondents (44%) started their trade with own savings. Among those whose start-up capital were from profits in other business, micro-lenders, relatives and friends, the majority were women. More men (61%) than women (39%) got their initial capital from trade profits.

Table 5: Main Reasons Given by the ICB Traders for Involving in the Trade, Source of Start-Up Income, The Main Source of Income for the Family and Source of Income for Expansion of ICBT

Item	Response	Sex of Respondent				Total	
		Male		Female			
		Number	%	Number	%	Number	%
The main reason for involving in Informal Cross-border Trade	Source of income	99	39	155	61	254	48.8
	Form of business/employment	33	27.5	87	72.5	120	23.1
	Food security	18	60	12	40	30	5.8
	Demand for foreign goods	16	55.2	13	44.8	29	5.6
	To share ideas	2	28.6	5	71.4	7	1.3
	Poverty	25	58.1	18	41.9	43	8.3
	To educate children and relatives	5	50	5	50	10	1.9
	I like ICBT	3	11.1	24	88.9	27	5.2
	Total	201	38.7	319	61.3	520	100.0
Main source of income for the family	ICBT	133	39.6	203	60.4	336	64.6
	Spouse formal employment	22	31.4	48	68.6	70	13.5
	Spouse informal employment	20	60.6	13	39.4	33	6.3
	Farming	15	34.9	28	65.1	43	8.3
	My own employment	5	23.8	16	76.2	21	4.0
	Other businesses	1	25	3	75	4	0.8
	My allowance from school	0	0	3	100	3	0.6
	Guardian salary	5	50	5	50	10	1.9
	Total	201	38.7	319	61.3	520	100.0
The main source of the initial capital to start ICBT	Own savings	78	34.1	151	65.9	229	44.0
	Profits from other business	36	32.7	74	67.3	110	21.2
	Trade credits	35	61.4	22	38.6	57	11.0
	Micro lenders	25	46.3	29	53.7	54	10.4
	Relatives and friends	25	44.6	31	55.4	56	10.8
	Others	2	14.2	12	85.8	14	2.8
	Total	201	38.7	319	61.3	520	100.0
Main source of the capital for the expansion and current operation of the ICBT	Own savings	57	38	93	62	150	28.8
	Profits from the business	117	37.6	194	62.4	311	59.8
	Trade credits	14	46.7	16	53.3	30	5.8
	Micro lenders	12	52.2	11	47.8	23	4.4
	Relatives and friends	1	16.7	5	83.3	6	1.2
	Total	201	38.7	319	61.3	520	100.0

This table shows characteristics of the sample by gender.

Generally, the traders used the money from profits from their business (60%) and own savings (29%) for the expansion and current operations of ICBT. More women than men obtained resources also from own savings (men, 38%; female, 62%) as well as trade credits (male, 47%; female, 53%). More men (52%) than women (48%) secured resources from micro lenders to expand their trade.

The traders were asked to state what problems they encountered in their conduct of informal cross-border trading. The responses of the traders are shown in Table 6. The table shows that delays at the border (77%), stiff competition from other traders (49%) and long hours of travel and time away from home (39%) were the most prominent problems that the ICB traders encountered. Of those who encountered these problems, the majority were women. Loss of goods and cash to immigration/customs officials/police and excessive exploitation by intermediaries appeared to be of least concern to the traders.

When asked how they have tried to overcome these problems militating against ICBT, the responses of the traders shown in Table 6 reveal that moving in groups (50%), formation of associations to help them lobby

and advocate for smart safe and successful trips across borders (44%) and sensitization of stakeholders on the operations of the cross-border traders through workshops (20%), are the top three ways of solving the problems encountered. Women were in the majority among those traders who held these views.

Table 6: Problems Encountered by Traders and Their Perception on Solutions to the Problems

Item	Response	Sex of Respondent				Total	
		Male		Female			
		Number	%	Number	%	Number	%
Top 11 problems encountered in participation in ICBT	Delays at border	151	38	246	62	397	76.5
	Stiff competition from other traders	89	35.3	163	64.7	252	48.6
	There are long hours of travel and time away from family.	68	33.5	135	66.5	203	39.1
	Stiff competition in supply of goods in the same markets	60	35.7	108	64.3	168	32.4
	High cost of transport and accidents	59	41.5	83	58.5	142	27.4
	Loss of goods and cash to thieves	40	30.1	93	69.9	133	25.6
	Lack of communication services at border level	61	46.9	69	53.1	130	25.0
	The absence of clearly laid down policies and procedures for small scale traders	49	40.2	73	59.8	122	23.5
	The informal money-changers regularly inflate the exchange rates	53	47.7	58	52.3	111	21.4
	Loss of goods and cash to immigration/customs officials/police	45	46.9	51	53.1	96	18.5
	Excessive exploitation by intermediaries	32	38.1	52	61.9	84	16.2
Top 6 ways the problems were overcome	Ensuring that we move in groups	81	32.3	170	67.7	251	49.5
	Formation of associations to help us to lobby and advocate for our smart safe and successful trips across borders	92	40.9	133	59.1	225	44.4
	Sensitization of stakeholders on the operations of the cross-border traders through workshops	50	49	52	51	102	20.1
	Training on sexual reproductive health, safe migration and human trafficking	33	44.6	41	55.4	74	14.6
	Nothing	11	40.7	16	59.3	27	5.3
	Ask for help from officials	14	63.6	8	36.4	22	4.3

This table shows problems encountered and solutions by gender.

Profits from ICBT

For the sustainability of any business venture, profit becomes the critical concern. The analysis of the opinions of the traders shows that 19% of the men and 15% of the women started their ICBT with less than P1, 000.00 (US $ 118.00). An overwhelming majority of the men (80%) and women (80%) started their informal cross-border trade with amounts between P1, 000.00 (US $ 118.00) and P10, 999.00 (US $1, 294.00) (Table7). The women have higher mean start-up capital (P 6, 101.46 or US $ 717.82) against men's mean start-up capital (P4, 648.85 or US $546.92).

The traders were asked to state their average monthly profit (Pula) from ICBT. The responses show that the mean monthly profit of the ICB traders is $P5554.80 \pm 277.33$ ($US\$653.51 \pm 32.63$). The mean monthly profit for the women (P5, 778.51 or US $ 679.83) is higher than those of men (P 5, 325.39 or US $ 626.52). The results which are summarized in Table 7 show that 67% of the traders made a profit of between P1, 000.00 (US$ 118.00) and P5, 999.00 (US$ 705.76) monthly while 20% of them made profits of between P6, 000.00 (US$ 705.88) and P10, 999.00 (US$ 1,294.00). Only 10 made a higher profit of over P11, 000.00 (US$ 1, 294.12) monthly.

Table 7: The Average Monthly Profit Made and Start-Up Capital for the ICBT Traders

The Initial Start-Up Capital (Pula) for the ICBT	Sex of Respondent					
	Male		Female		Total	
	Number	%	Number	%	Number	%
1- 999	38	18.9	48	15	86	16.5
1000-9999	161	80.1	255	79.9	416	80.0
10000-19999	2	1	4	1.3	6	1.2
20000-29999	0	0	4	1.3	4	0.8
40000-49999	0	0	8	2.5	8	1.5
Total	201	100	319	100	520	100
Monthly profit from ICBT						
Below 1000	6	3	11	3.4	17	3.3
1000-5999	140	69.7	210	65.8	350	67.3
6000-10999	37	18.4	67	21	104	20.0
11000-15999	15	7.5	16	5	31	6.0
16000-20999	2	1	7	2.2	9	1.7
21000 and above	1	0.5	8	2.5	9	1.7
Total	201	100	319	100	520	100

This table shows average monthy profits and start-up capital by gender.

A multiple regression analysis was carried out to determine how the socioeconomic variables affected the profit generated from ICBT. The dependent variable was profit (Pula) generated monthly from ICBT while the independent variables were: age of the trader, highest educational status, sex of the trader, number of years on ICBT, employment status, marital status, and initial start-up capital (Pula) for the ICBT. The multiple regression model is given in (1) as follows:

$$Y_i = \beta_0 + \beta_1 z_{1i} + \beta_2 z_{2i} + \beta_3 z_{3i} + \beta_4 z_{4i} + \beta_5 z_{5i} + \beta_6 z_{6i} + \beta_7 z_{7i} + \beta_8 z_{8i} + \beta_9 z_{9i} + \ldots\ldots\ldots + \beta_{20} z_{22i} + \varepsilon_i \quad (1)$$

Where

Y_i = the profit made by the i^{th} ICB trader

$z_{ji}, \quad j = 1, 2, \ldots\ldots, 22$ is the j^{th} independent variable for the i^{th} ICB trader: $z_{ji}, \quad j = 1, 2, \ldots\ldots, 19$ are dummies (Table 8) defined as

$$z_{ji} = \begin{pmatrix} 1, & if\ the\ i^{th}\ trader\ belongs\ to\ j^{th}\ \text{var}iable \\ 0, & if\ the\ i^{th}\ trader\ does\ not\ belong\ to\ j^{th}\ \text{var}iable \end{pmatrix} \quad (2)$$

$\beta_i's; i = 1, 2, \ldots\ldots, 22$ are the regression coefficients and measure the change in the profit made for any unit change in the j^{th} independent variable holding the other variables constant.

Table 8 shows the analysis of variance table for testing the significance of the regression model. The results show that profit generated from ICBT is significantly predicted by the socioeconomic and demographic variables, $p < 0.01$, and with high coefficient of determination, $R2 = 0.66$, showing that 66% of the variation in profit realized from ICBT has been explained by the variables in the model (1).

In Table 9, the test of the significance of the regression coefficients is shown. Column two of the table shows the least squares estimated value of the regression coefficients, β , while column four contains the Students' t-values. The last column shows the estimated probability of rejection of the null hypothesis that the regression coefficient is zero (that is, that the variable is not important in the prediction of monthly profit from ICBT). The results of the analyses show that initial start-up capital for ICBT, age of traders (18-21, 26-30, and 36-40 years), the number of trips on ICBT, employment status (employed in the private

sector) and marital status (married, divorced, cohabiting) of the traders are positively correlated with profit generated from ICBT. However, only initial start-up capital, number of years in ICBT and age of trader (36-40 years), possession of junior certificate of education and professional certificate significantly predict the profit generated from ICBT ($p < 0.01$) (Table 9). Employment status (employed in the public sector) and highest educational qualification (university degree), both indicators of economic standing, are negatively correlated with profit generated from ICBT.

Table 8: ANOVA Table of Regression of Profit Generated from ICBT on Socioeconomic Variables of ICB Traders

Source of variation	Sum of Squares	df	Mean Square	F	Sig.
Regression	11,300,899,361	23	491,343,450.5	25.772	.000**
Residual	9,456,342,693	496	19,065,207.04		
Total	20,757,242,054	519			

This table shows the ANOVA of the Profit Generation regression.

Table 9: Test of Significance of the Multiple Regression Coefficients

Variables in the Model	Unstandardized Coefficients B	Std. Error	T	Sig.
(Constant)	-8,593	982	-8.750	0**
Married (Z_1)	909	516	1.762	0.079
Divorced (Z_2)	1,374	793	1.734	0.083
Widowed (Z_3)	-268	1,188	-0.226	0.821
Cohabiting (Z_4)	935	607	1.539	0.124
Employed in the public sector (Z_5)	-1,489	739	-2.016	0.044*
Employed in the private sector (Z_6)	992	658	1.507	0.132
Unemployed (Z_7)	-401.407	473	-0.849	0.396
No schooling (Z_8)	-1,145	925	-1.238	0.216
Primary certificate (Z_9)	-39.9	798	-0.050	0.960
Junior Certificate of Education (Z_{10})	1,211	563	2.15	0.032*
University Degree (Z_{11})	-238	587	-0.406	0.685
Professional Certificate (Z_{12})	1,944	736	2.641	0.009**
Female (Z_{13})	-271	418	-0.651	0.516
Age:18-21 (Z_{14})	1,350	1,045	1.291	0.197
Age: 22-25 (Z_{15})	-540	694	-0.778	0.437
Age: 26-30 (Z_{16})	195.8	558	0.351	0.726
Age: 36-40 (Z_{17})	1,921	605	3.171	0.002**
Age: 41-45 (Z_{18})	-128.07	900.0	-0.142	0.887
Age:46 and above (Z_{19})	-84.85	975.5	-0.087	0.931
The initial start-up capital (Pula) for the ICBT (Z_{20})	5,922.6	322.7	18.353	0**
Number of years on ICBT (Z_{21})	1,453.4	432.7	3.359	0.001**
Number of trips in a year (Z_{22})	2.117	8.561	0.247	0.805

*This table shows regression coefficients and significance. **Highly significant at 0.01 level of significance; * Significant at 0.05 level of significance; $R = 0.813$; $R^2 = 0.66$; $p < 0.000$*

Table 10 shows the main use to which they put the income generated from the ICBT. The traders mostly use the income from ICBT to buy food for the households (42% male, 58% female), to reinvest in business (37% female, 63% male), buy household gadgets (40%, male; 60%, female) and pay for school fees for children and relatives (10% female, 6% male). The men (67%) spend more in pay for health care services for themselves, children and relatives than women (33%). The percentage of men and women who spend their income in building houses are the same.

Table 10: The Traders' Main Use of Income They Generated from ICBT

The Main Use of The Income Generated from ICBT	Sex of Respondent				Total	
	Male		Female			
	Number	%	Number	%	Number	%
Reinvest in business	45	37.2	76	62.8	121	23.3
Buy food for the households	84	41.8	117	58.2	201	38.7
Buy personal effects including car	14	31.8	30	68.2	44	8.5
Pay rent	13	43.3	17	56.7	30	5.8
Pay school fees for my children and relatives	11	26.2	31	73.8	42	8.1
Pay for healthcare services for self, children or relatives	2	66.7	1	33.3	3	0.6
Build a house	12	50	12	50	24	4.6
Buy household gadgets	19	39.6	29	60.4	48	9.2
Household welfare	1	14.3	6	85.7	7	1.3
Total	201	38.7	319	61.3	520	100.0

This tabled shows income use statistics.

CONCLUDING COMMENTS

This paper sets as its objectives to determine (i) the socioeconomic and demographic characteristics of informal cross-border traders in Botswana and the commodities they trade in, (ii) the sources of income for ICBT, (iii) the factors that influence participation in ICBT (iv) the utility of ICBT and (v) the business and institutional obstacles facing informal traders and how these obstacles are overcome. In order to accomplish these objectives, quantitative (survey) and qualitative approaches (key informant interviews, focus group discussions) were employed in the study. Systematic random sampling method and snow ball techniques were used in identifying the ICB traders for the study. Information on the demographic characteristics of the informal cross border traders, why they participate in the trade, sources of capital for the business, utility of the business, the types of goods traded on and frequency of the trade were collected using a questionnaire. One focus group discussion and key informant interviews were conducted at each border post with the immigration/custom officers and residents of nearby villages to the border posts who participate in the trade.

The results of the analyses of data show that were more women (61%) than men (39%) participating in the ICBT. The majority of the traders (60% of the men and 52% of the women) were within the age range 26 and 35 years; 30% of the men and 41% of the women were unemployed while 43% of the men and 38% of the women were self-employed. Most of the men (59%) and women (66%) had a secondary school certificate or higher qualification. Thus the study has shown that the traders were mainly women, youths, unemployed and educated. Since majority of the traders were youths, educated and yet unemployed, the ICBT must have served them as a means of employment after completing their educational careers. The results closely agree with the 2007 Informal Sector Survey (CSO, 2009) which shows an unemployment rate of 20.7% with the females having a higher unemployment rate of 23.6%. It is even more worrisome with Botswana's current unemployment rate at 17.8% and the youths being mostly affected (13.6% for males and 14.2% for females) (Global Economy.com, 2013; Republic of Botswana, 2012). However the Government of Botswana has put in place a number of programmes such as Youth Development Fund, Construction Industry Trust Fund, and Young Farmers Fund under the Citizen Entrepreneurial Development Agency (CEDA), to assist in creating more job opportunities, especially for the youth. A

study undertaken by Okurut and Ama (2013) showed that the youths and women are unable to access these funds because of the stringent conditions that the applicants have to meet. This includes having a registered business, having some collateral and owning a business premises. This explains why the youths and women ICB traders are unable to secure loans from finance houses to enhance the trade. The study therefore recommended a relaxation of these conditions of eligibility to the funds in order to enhance the traders' access to funds for ICBT.

On the major trading activities, the study shows that while more women trade in agricultural products and outputs, industrial products, textiles and cosmetics than men, more men than women were trading on forestry and mining products. Compared with women, the men imported timber. The women, on the other hand, imported shoes, clothes, bags and beans and also exported shoes, clothes, beans, maize grains and aggro vet drugs while the men exported mainly, human medicine, fish, millet and sorghum. It is important to point out that there are no industries in Botswana except the mining and beef production industries. The exports were mostly re-exports from those who might be trading between Botswana and Zambia and Namibia. The results are in line with studies conducted in other SADC countries (UN-Women, 2009, 2008) which showed the major imports as textiles, clothes, sweets, juices, alcohol and other cooking oil and plastic bags.

The three main reasons given by the traders participating in ICBT were that ICBT was a source of income, a form of business/employment and that it helped them to overcome poverty. The poverty rate in Botswana is high. Over 20% of the Botswana people still live below the poverty datum line. Botswana's Assistant Finance Minister, Vincent Seretse, while addressing the Parliament stated that the number of Batswana (someone from Botswana) living below the poverty datum line has declined from 30 percent to 20 percent or just over 373,000 people in 2010 (StarAfrica.com, 2013) with the most vulnerable those in rural areas, households headed by women, the uneducated and the disabled. The focus group discussions point to the fact that traders engage in ICBT to earn some quick income, be financially independent and be able to carry out some projects like building a house, buying a car which cannot be accomplished with the income from their salaries. "People get involved in ICBT so as to make extra income and earn a living. I went into ICBT because I wanted to build a house and the salary that I am getting is way too little to feed my family and at the same time involve in a project which needs money". "It requires little funds to start. This trade should be encouraged because anyone can do it, educated or not, which really makes the country to have more financially independent citizens instead of people who will be roaming the streets with nothing to eat"(Participant 2; 19/03/2013).

The study demonstrates that the sources of funding for launching and sustaining cross-border trade were usually drawn from the personal savings and profits from other businesses. Only a very small number of ICB traders applied and qualified for loans from other sources such as micro lenders, CEDA and Youth Development Fund. The ICBTs do not qualify for bank loans. Their trades were, therefore, limited to small quantities of a few commodities. These results are in line with those of Ackello-Ogutu (1997) who found out that due to insufficient working capital, the trade is characterized by quick turnover of stocks and many of the traders are forced to take risks like attempting to evade declaration of goods at the customs border posts. The traders, therefore, rely on hired transport and lack their own storage facilities. Mijere (2009), on the other hand, stated that "as the family savings are meagre, the ICBTs import small quantities of goods. They transport their merchandise by public transport such as buses or coaches and/or on foot. They carry, on average, three to four cartons, boxes and bags at one trade trip. The traders, most importantly, import essential and scarce commodities into their countries. Because the traders need income, they import goods that would sell quickly in the markets and bring money quickly". It is clear from these results that Informal Cross Border Traders (ICB traders) move small amounts of goods from country to country, often trading in informal sector markets. They work at personal and economic risks. Awang et al (2013) reported that approximately 72% of the traders used their own savings as a start-up business capital. Only 28% of the traders received financial support from family members. This lack of resources exposes the ICBT to

robbers, harassment by customs officials, and women in particular, can be raped, beaten or sexually exploited if they are not adequately protected. It is therefore important that the government intervenes on behalf of ICBT by creating an enabling environment for the traders to access fund for the trade. Bank regulations can be modified to allow them access to loan facilities.

Delay at the border is the most prominent problem that the ICBT traders encounter. This is followed by stiff competition from other traders, long hours of travel and time away from home and stiff competition in supply of goods to the same market. Delay at the border can be caused by the time taken to clear the goods by customs officials at the border, inability of the trader to fulfil all the trade requirements and the nature of goods imported or exported. Inability of the traders to accurately fill in the customs and immigration documents, and inefficient customs officials can also cause delays at the border (Mashangwa, 2013). The participants in the focus group discussions also highlighted this, "Poor customer service at the border from an immigration officer. Those who are in the business of perishable goods end up losing some of their goods due to the slow service at the border. We are vulnerable to corruption because the system frustrates us", as a major concern. The stiff competition from other traders can affect the profit margins of the trade since all the traders struggle for clients from the same environment. The long time away from home on ICBT can impact negatively on the family as children might in most cases be left under the care of househelps or relatives. This might expose the children and spouses to abuses of different kinds. In Zimbabwe, the risks were compounded by already-high numbers of women living with HIV and AIDS. The official statistics indicate that more than one in five women aged 15-49 and over one in three aged 30-39 is HIV positive – provoking the danger of re-infection and mother-to-child transmission. Women's choices are further constrained by an environment of deteriorating security, food service availability and livelihood choices (IOM, 2011).

The major problem of the ICB Traders in this study seems to differ considerably from those of Njikam and Tchouassi (2010) and UN-Women (2008, 2009), where access to financial credits topped the constraints. In fact access to financial services was of least concern to the traders in this study because the Government and banking regulations have excluded them from these services and they are fully aware of it. It is in light of this that the study solicits changes in the financial regulation of financial houses to include the ICB traders as they are also contributing indirectly to the economic growth of the nation through better living conditions for their families. The study advocates for the recognition of the importance of informal cross-border trade by putting in place trade policies that can promote growth and sustainability of cross-border trade and creating awareness of these policies through workshops. Training in sexual and reproductive health will be relevant particularly for the women so that they are able to protect themselves.

Notwithstanding that the traders start up their businesses with a very small amount of money, the gains are appreciative. The study has shown that the average monthly profit realization by the traders is about P5554.00 (US $ 653.51) with two in every trader making a profit of between P1000 (US $ 118.00) and P5999 (US $ 705.76). The traders have also invested these profits in buying food for their families, reinvested them in the business or improved the welfare of their homes. These results do confirm the popularly held views that ICBT have been used to alleviate poverty at the household level (Mashangwa, 2013; Mijere, 2009; Ackello-Ogutu, 1997). The expansion of this trade through engagement in productivity and value addition activities instead of them limiting themselves to buying and selling would further enhance the profitability of the ICBT. This would be made possible and enhanced by increased start-up income which has been shown in this paper to significantly affect the profit realized from the business. In the light of the findings of this study, we recommend as follows:

The government should recognise ICBT; assist the participants to form associations and schedule periodic meetings with them to find out the challenges the traders face. With the traders working hand in hand with government and other key stakeholder in the trade can be made lucrative and it can contribute more to the poverty alleviation programme of the country.

Facilities to reduce delays at the borders need to be provided. This would come in the form of training the customs and immigration staff to become more efficient in service delivery, training the ICB Traders on immigration formalities and how to complete the documents; Traders should be made fully aware of which commodities are allowed into the country without any tax or duty.

The Ministry of Trade should create a special sector/department for ICBT to cater specifically for the interest of ICBT.

Re-establish train services to ease the transport problems of these traders and minimize the women's vulnerability to rape and subsequent contraction of HIV and AIDS.

The government should come up with clear policies and regulations to govern the trade so as to avoid inconsistencies with officers in the determination of what goods to charge tax on and how much tax is required. This will minimize unfavourable treatment given to the traders.

The Simplified Trade Regime which is currently applicable in some of the SADC countries need to be fully entrenched in the country's trade liberalization policies. Finally, the study should be expanded to cover all the border posts in Botswana

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BIOGRAPHY

N.O. Ama is an Associate Professor of Statistics at the University of Botswana. His research covers areas of Agriculture, Education, Health, HIV and AIDS. He has published extensively in International Journal. Contact: Department of Statistics, University of Botswana, Gaborone, Botswana. E-mail: amano@mopipi.ub.bw

K.T. Mangadi is a lecturer in the Department of Economics, University of Botswana. She holds a Master's degree in Economics and currently pursuing a PhD in Economics. She has published widely. She has contributed in the development of this article. Contact: Department of Economics, University of Botswana, Gaborone E-mail: kagiso.mangadi@mopipi.ub.bw

H.A. Ama- Holds a Master's degree in Educational Management. She is a PhD candidate at the Department of Educational Management, University of Botswana. Has published a number of papers in the areas of renowned journals. Sha has contributed in the development of this paper. Contact: Department of Educational Management, University of Botswana, Gaborone. E-mail: nneomagood@gmail.com

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