Structural factors associated with the export performance of manufacturing firms

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ABSTRACT

This study investigates whether the structures of High performance Exporter firms differ from those of Low performance Exporter firms. Data were obtained from a survey of managers of 60 firms in Tanzania, an underdeveloped country. The study produces interesting contributions to our understanding of export causal relationships. The findings are both at variance and in conformity with existing theory. The findings are different because only a few of the structural factors are associated significantly with export performance. This can be explained in terms of the ‘‘unsettled’’ industrial development and inward looking strategies of Tanzania which seem to reduce the explanatory power of conventional trade theories. The findings are in some ways consistent with theory in the sense that although many of the structural variables are not related significantly to performance, nevertheless most were in the hypothesized direction or could be explained by alternative hypotheses. This implies that structural factors affecting export performance may be universal.

Keywords: export performance, manufacturing, Tanzania, underdeveloped countries

INTRODUCTION

This is an empirical study concerned with investigating the association between export structure and the export performance of manufacturing firms. The investigation centers upon whether the structure of high performing exporter firms differs from those of low performing ones. The study has two distinct characteristics. First, it takes a broad view of the concept of structure. Second, theory development, a major weakness of the literature on exporting, has been given a good amount of attention.

This study has been inspired by the seminal work on strategy-structure by the business historian Alfred Chandler (1962) as well as subsequent publications by Channon (1973) and Rumelt (1974). These early publications appear to have stimulated the strategy-structure research tradition in exporting. However, most studies focused on the link between strategy and performance (Jaffe, 1974; Porter, 1980; Cooper and Kleinschmidt, 1985; Amine and Cavusgil, 1986; Lee and Yang, 1990; Cavusgil and Zou, 1994; Stewart, 1997; Sharma, 2004). Only a few studies have investigated the link between structure and export performance. In the few studies that exist, structure is only implied. For example, Cavusgil (1984) studied organizational characteristics and Stoian (2010) studied management determinants. One notable exception (Reid, 1987) covered both strategy and structure but still structure was not given the undivided attention it deserves. The effect of structure, per se, in exporting has not yet been investigated in detail. This study is intended to reduce this gap in knowledge by testing the proposition that export structure has significant impact on export performance.

LITERATURE REVIEW

The objective of this review of literature is to develop a model on how structure and other salient factors influence export performance. The model should help the reader understand the broader picture of the determinants of export performance, as well as provide a theoretical framework within which to conduct this specific study in a systematic manner. The literature on export structure may be seen as tackling two distinct themes: *definitional aspects of structure*, *measurement of export performance* and the *link* between *export structure and export performance.*

What is structure?

It is important to understand what structure is before attempting to measure it. Unfortunately, in the context of business, there is no single generally accepted definition of structure. An examination of the extant literature reveals that three concepts – the *administrative structure (*organogram*), ownership structure* and *Thorellis' strategy structure paradigm* - can be used as bases to discern the main components that constitute structure.

The administrative structure:

The first and most common usage of the term structure is in reference to administrative structure which is essentially a hierarchical concept. It is a chart, also called organogram, which shows the way in which the chain of command works within an organization (The Times 100, 2010). The organogram can be used to display four basic types of administrative structures: functional, product, geographical and matrix.

The *functional structure* involves organizing a business according to functions, such as production, accounting, finance and marketing. The functional structure has variants that

reflect different sequential stages in the export growth process (Cavusgil, 1982**).** At the very early stage of entrepreneurial development, for example the marketing function may be integrated as part of other managerial functions in the sense that there may be no formal unit that handles domestic or export marketing operations. As exports grow, a department may be established to handle both domestic sales and exports. As exports grow even further, the complexity of exporting may create pressure to assemble a separate department dedicated to handle export operations.

The functional structure is suitable for companies with few products and serving few markets because all similar functions are centralized, which makes specialization and coordination of tasks efficient and predictable. However, as products or markets served increases the problem of inadequate planning for specific products or markets emerge. This dictates decentralization of the organization according to either products or markets as the case may be. The *product or market structure* does not do away with the functional structure. Each product or market division is given all the necessary functional resources within it.

Finally the *matrix or mixed structure* combines the best of the one-dimensional structures. A matrix structure can include functional, product and market structuring all in one company. A matrix organization frequently uses teams of employees to accomplish work, in order to take advantage of the strengths, as well as make up for the weaknesses, of functional and decentralized forms (Answers.com, 2010). However, the combination of different structures requires multiple reporting relationships that foster conflict and complexity.

Ownership structure:

The second usage of the term structure is with reference to ownership of a firm. Using ownership as a criterion firms can be categorized into several groups, not necessarily mutually exclusive: private, public, state-owned, partnership, joint ventures, locally owned and foreign owned. Other business ownership types include franchises and cooperatives.

Strategy - structure – performance paradigm:

The third concept that can be used to discern the main structural components of a firm is Chandler's (1962) Strategy - Structure - Performance paradigm as modified by Thorelli (1977). The main contribution by Thorelli is the splitting of structure into two distinct categories of variables. The first category which was described as the O-structure (Organization structure) consists of variables describing the design and capabilities of a firm. These include factors such as departmentalization, degree of centralization, leadership (skills, style), firm's size, and technology used (unit, batch, continuous and flow). The second category which is called the E-structure (Environment structure) consists of variables describing the markets from which a firm gets its supplies and sells its finished products. These include markets for capital, labor, raw materials and finished products. The main hypothesis in the modified Strategy - Structure - performance hypothesis is that performance is a function of *Strategy, O-structure and E-structure*.

A synthesis:

Three main conclusions can be drawn from this brief review of the literature on what constitutes structure:

1. First is the absence of a generally accepted definition or conceptual framework to guide research on structural factors in international business. This makes the process of deriving conclusions more complex because of lack of a theory.
2. Second, the three concepts used here are not mutually exclusive. They are called by different names, but in reality they overlap and use some common explanatory variables. For example, Thorelli's O-structure captures factors such as *departmentalization* and degree of *centralization* which are essentially part of the organogram. It includes new factors such as *firm's size* and *technology* which have been referred to in the literature as firm demographics and *leadership* which has been studied in the literature as manager demographics. Furthermore, Thorelli's E-structure is basically what has been referred to in the dominant literature as environmental factors.
3. Third, Thorelli's version of the Strategy- Structure - Performance paradigm, is the most comprehensive of them all. It integrates, though not completely, ideas from all the other two approaches to structure and introduces new ones. It therefore provides a useful starting point in discerning the main components of export structure and in the construction of a comprehensive model of export performance determinants.
4. Finally, the scope of structure, as presented in the literature, can therefore be looked upon in what may be considered a narrow and a broad sense. In a narrow sense, structure refers to the administrative structure (organogram) of a firm. In a broader sense structure extends to include ownership structure, firm demographics and management demographics (Figure 1).

Export performance measurement

Since the pioneering work of Tookey (1964) export performance measurement has long been a construct of central interest in the international marketing literature. To date there is still no consensus on the criterion for measuring export performance. In a review of 43 empirical studies published between 1998 and 2004 Sousa (2004) discovered as many as 50 different export performance indicators. The author found that despite the large number of measures, only a few were frequently utilized, namely, export intensity (export-to-total sales ratio), export sales growth, export profitability, export market share, satisfaction with export performance and perceived export success. Other measures, such as return on investment and customer satisfaction were examined in only one or two studies. The multiplicity of measures partly explains why the conclusions reached by researchers in this area have often been conflicting (Aaby and Slater, 1989; Cavusgil and Zou, 1994; Sousa, 2004) and hard to compare findings from different studies (Zou and Stan 1998).

Matthyssens and Pauwels (1996) classified all measures of export performance into seven categories, representing financial, nonfinancial and composite scales (Table 1). Compared to financial measures, which are objective, the non-financial measures of performance are subjective. Composite scales refer to measures that are based on several aggregated performance measures of performance.

The existing measures of performance suffer from one major weakness. First, any measure must consist of a conceptual and operational definition (Tull and Hawkins 1987). The conceptual definition attempts to define the export performance construct. The operational definition establishes how to measure export performance. According to Gertner (2010) only a few researchers develop a conceptual definition of the export performance they are purporting to measure.

In this study, the export-to-total sales ratio indicator of performance is used. The data collected did not permit use of an additional measure, export growth, as planned, because most firms surveyed were reluctant to go back into their files to dig out sales data for previous years.

Admittedly, the export-to-total sales ratio is based on the assumption that firms strive to increase the share of sales exported. This ratio is of little significance to an individual firm whose interest is export profitability and not volume. It is of major relevance to a public policy maker who seeks to expand export sales, regardless of their profitability. Nevertheless, according to some authors (Hirsch, 1971:17; Dess and Robinson, 1984) while the two objectives do not necessarily coincide, they do not conflict. Firms that find exporting profitable can be expected to expand the share of sales exported. Therefore, while the two objectives do not coincide, they can be expected to move in the same direction. It appears, therefore, that this ratio may not pose a serious limitation on validity.

Theories on structure and performance

There are a number of theoretical propositions, derived from a variety of theoretical approaches that suggest that the various components of structure matter in determining export performance.

Administrative structure and performance:

A good starting reading for understanding the role of administrative structure on performance is Weber's classic text on bureaucracy, in the discipline of Administrative Theory. Weber (1947:196) hypothesized that the bureaucratic organization, with its clear-cut division of activities and hierarchy is superior to all other forms of organization. It enables greater precision, speed, task knowledge and continuity, while reducing friction and ambiguity.

In a landmark contribution in this tradition Burns and Stalker (1961) reported research findings of 20 industrial firms in the United Kingdom. In their important book they extended Weber's hypothesis in the sense that instead of one ideal administrative structure, there are two. The importance of this study was the discovery that successful firms operating in *static* environments tended to have what was described as the Weberian *mechanistic* structures (Burns and Stalker, 1961:6). That is, they tended to rely on high centralization, well-defined chains of command, high formalization, directives and position-based authority. Conversely, successful firms operating under *dynamic* environments tended to have what was described as *organic* structures. That is, the firms tended to have a high degree of decentralization, low levels of formalization, and authority based on knowledge rather than on position.

In the U.S.A. research by Lawrence and Lorsch (1967) supported and extended that of Burns and Stalker by introducing the concepts of *differentiation* and *integration.* Differentiation was the tendency by firms to be fragmented because of division of labor. This can lead to a situation where different units of the firm work at cross-purposes and get caught in counter-productive jurisdictional conflicts. Integration was the tendency by firms to develop means to constructively resolve conflicts between units or individuals in order to achieve a common purpose. The importance of this research which covered three industries (environments) was the discovery that in high performing firms both differentiation and integration increased as environments became more dynamic. Conversely, in static environments, the need for differentiation and the consequential need for integration were reduced.

Three conclusions stand out from this research. First, the various ways of structuring an organization have implications in terms of span of control, chain of command, hierarchy, delegation, empowerment and whether the organization is a flat or tall structure. Second, there is no single best way to structure a firm. The appropriate design is *contingent* upon the requirements of the environment. Third, the more dynamic an environment is the more flexible the organizational structure must be.

In empirical studies the Burns and Stalker's theory confirmed that in dynamic environments, firms with organic structures are more effective than those with more mechanistic structures (Covin and Slevin, 1989; Aiken, Bacharach and French 1980). One exception, however, is notable. In a study of the effects of formal structure on the performance of new ventures in the emergent Internet sector, the authors (Sine, Mitsuhashi and Kirsch 2006) demonstrated that new ventures that have greater role formalization and specialization in founding teams, as well as administrative intensity, showed better performance. They explained this in terms of the fact that the empirical tests of the theory in the past used samples consisting mainly of mature organizations. They argued that whereas mature organizations with well-defined structure typically need to become more flexible (organic) in order to adapt to dynamic environments (Burns and Stalker, 1961), the opposite is true for new ventures. They showed that new ventures are already flexible and attuned to their environment, but that they often lack the benefits of administrative structure, such as low role ambiguity, low coordination costs and high levels of organizational efficiency.

Ownership structure and performance:

Perhaps the best theoretical framework for explaining the impact of ownership on performance is Agency Theory. The theory can be traced back to Adam Smith (1776) and Berle and Means (1932) but modern Agency Theory was developed by Jensen and Meckling (1976). The cornerstone of the theory is the concept that managers (agents) have a tendency to maximize their personal wealth and may not always act in the best interests of their owners (principals). As a manager's ownership increases, his interest coincides more closely with that of the common shareholder and hence the conflict between them is likely to be reduced.

Firm demographics and performance:

A useful theory in psychology that can be adapted to explain the relationship between firm demographics and performance is the Trait-Factor Theory (Parsons 1909; Williamson 1939, 1965). The basic assumptions that underlie the theory are: (a) every person has a unique pattern of traits (b) every occupation is made up of factors required for successful job performance (c) the closer the match between personal traits and job factors the greater the likelihood for successful job performance and satisfaction. The theory can be adapted and applied to an export situation by substituting the personal traits with organizational demographics and job factors with export performance. In this context, it can be postulated that, the closer the match between firm traits (demographics) and export requirements, the greater the likelihood for success.

Management demographics and performance:

The distinctive role of management in business performance is perhaps best explained in business policy area studies. Business policy approach differs from Administrative Structure Theory, Ownership and Trait-Factor approaches in two ways. First, business policy emphasizes strategy as the primary determinant of performance. Second, Administrative Structure, Ownership and Trait-Factor approaches assume a higher degree of rationality. A firm confronts a set of conditions for success; if it creates these, it survives, if not, it fails. This more or less rational way of behaving does not explicitly consider that managers are creative and proactive. The way they choose to respond to business situations is influenced by the conditions, but not dictated by them. Additional considerations include management objectives, value, preferences

and group pressures. All these considerations can result in radically different strategies being chosen by firms facing the same conditions.

Certainly, management demographics or key decision-maker characteristics can be and indeed are part of firm demographics. The elevation of management into a separate component of structure in its own right, in this study, is based on the proposition that management is different from all previous components, namely the organogram, ownership and firm demographics that are essentially inanimate. Management is a more animate component that may provide useful indications of export performance. Evidence from the field of business policy indicates that managers have a considerable influence on whether organizations perform well or not (Schendel, Patton and Riggs, 1976; Peters and Waterman, 1982). For example, Thompson and Strictland (1983:2-3) stated that the characteristics of successful managers seem to be that they are strategic thinkers, take a proactive stance, and have a talent for entrepreneurship accompanied by a talent for administration. This suggests that managers can mediate the impact of other structural factors that a firm faces.

A MODEL OF EXPORT PERFORMANCE

An analytical model that articulates the broader framework of the study is constructed as shown in Figure 2. The model borrows its concepts from Thorelli's Strategy-Structure Paradigm, economics, management and marketing in an eclectic manner. In the model, the export performance that a firm attains is conceptualized as a joint function of both *macro* and *micro* level factors.

Macro-micro level factors

Macro factors exert a *general influence* and thus constitute the environment or external factors of a firm. More specifically, macro factors consist of the characteristics of the international business environment, those of the country in which the firm operates, and those of the industry of which it is a member. It is generally accepted that almost all macro factors are uncontrollable, at least to most firms. Some are controllable, however, from a public policy perspective; these include infrastructure, export promotion and domestic export barriers. The factors over which a country has no control include the international economic conditions and trade barriers in foreign markets. The controllable macro factors are more useful to a public policy-maker, because the nation can influence them more easily. In other words, firms can do little if anything about the macro-environment; the only way they can exhibit any kind of control is at the aggregate (industry) level. On the other hand, micro factors exert a *specific influence* and thus constitute the internal factors of a firm. More specifically, micro factors consist of characteristics of the firm itself, that is, its *strategy and* its *structure*. Micro factors are considered more or less controllable at the level of the individual firm.

Export causation

The macro and micro factors are thought to operate at different successive stages in the export causal process. Favorable macro factors are thought to be preconditions for exporting; but whether a firm actually exports or not depends on the micro level factors, where important decisions affecting export success or failure are made. These factors include *strategies* used and the *structures* created to carry out and formulate new strategies.

If export performance is depicted graphically (Figure 3), the role of the macro factors is to determine the Y-intercept, while the role of the micro factors (strategy, structure) can be

thought of as determining the slope of the curve. The role of the macro factors (effect is pervasive) is to raise or lower overall export performance for a large number of firms. In other words, given the same combination of strategy and structure factors, a favorable macro environment raises overall export performance, while an unfavorable environment lowers overall export performance. This conceptualization is not entirely new. The macro-micro dichotomy is well established in economics. Its implication in export marketing is that, to boost exports, efforts must be directed at both levels of export determination.

This study is concerned with the micro structural factors that can be controlled from the point of view of a single firm. As illustrated in Table 2, our prime concern is with variables in the third quadrant and focusing on Structure.

Hypotheses: Conceptual and operational

Based on the discussion of the theoretical link between export structure and export performance, a conceptual or broad hypothesis was formulated. The export performance that a firm achieves is associated with certain structural characteristics of the firm, in particular the administrative structure, ownership structure, firm demographics and management demographics. Drawing on theory and intuition, this broad hypothesis was broken down into more specific operational hypotheses:

Administrative Structure

Hypothesis 1: There is a positive association between having a separate international unit and export performance.
Hypothesis 2: There is a positive association between the use of overseas sales agents and export performance.
Hypothesis 3: There is a positive association between the use of overseas subsidiaries or joint ventures and export performance.
Ownership Structure
Hypothesis 4: There is a positive association between private ownership and export performance.
Hypothesis 5: There is a positive association between foreign ownership and export performance.
Firm Demographics
Hypothesis 6: There is a positive association between the size of firms and export performance.
Hypothesis 7: There is a positive association between firm experience and export performance.
Management Demographics
Hypothesis 8: Higher performing exporter firms are run by managers characterized by greater overseas travel.
Hypothesis 9: High performing exporter firms are run by managers characterized by greater ability to speak foreign languages.
Hypothesis 10: High performing exporter firms are run by managers who are more educated.

METHODOLOGY

Study sites:

The data used in this study were based on a survey of firms located in eight towns of Tanzania. The choice of the towns was based on two criteria: the first was industrial importance, and the second was proximity to the industrially important towns. Using the criterion of industrial importance, four of the largest towns were selected. These were Dar-Es-Salaam, Tanga, Mwanza, and Arusha. Dar-Es-Salaam which has about 60 percent of the nation's registered manufacturing exporters is easily the manufacturing capital, as well as the administrative and cultural focal point of the country. No study relating to manufacturing can be complete without it. Tanga, Mwanza, and Arusha are the second, third, and fourth largest towns, respectively, and together contain about 25 percent of the country's registered manufacturing exporters. Using the criterion of proximity to the large towns, four smaller towns were included in the study: these are Morogoro, Zanzibar (near Dar-Es-Salaam), Moshi (near Arusha), and Musoma (near Mwanza). The eight towns contained about 93 percent of all registered manufacturing exporters in the country, as per Board of External Trade Directory of Exporters.

Research design:

The research design adopted was descriptive rather than exploratory or experimental, and quantitative rather than qualitative. The design was descriptive as opposed to exploratory because the author had prior knowledge about the phenomenon being studied from theory and the empirical literature and as such the study rested on a number of specific hypotheses or statements that guided the research in a specific direction. A quantitative rather than qualitative design was chosen because the researcher elected to conduct a study that would demonstrate a high degree of objectivity. It was therefore, decided to carry out a survey study rather than a case study. Since many cases are involved in a survey, the analysis used techniques adapted to mass data, where individual respondents tend to lose their identity. The advantage of a survey lies in the objectivity with which the analysis can be made. Averages and percentages can be computed. This permits one to make more accurate generalizations. The tendency in case studies is to jump to general conclusions from a few sample cases that may or may not be typical of the universe under investigation. A properly selected sample for a survey study, since it involves more cases, is apt to be typical of the universe.

The sample:

Two difficulties did not allow the sample to be selected on a stratified random basis as was initially planned. The first is lack of complete and up-to-date listing of firms in the Board of External Trade Directory. The second is that after a brief survey experience in Dar-Es-Salaam, it was found that a large number of registered exporters on the Board of External Trade's list had stopped exporting some years previously. To deal with the problem, all exporters known to the central and local trade officials were identified and surveyed. They in turn were requested to identify exporters known to them (snowballing). Finally, based on the sampling frame as many firms as possible were visited with the aim of locating exporting ones. Under these conditions, it is not possible to establish statistically how representative the sample firms were in the eight towns surveyed. Nevertheless, since a careful attempt was made to include in the study all known exporters, it is believed that a large proportion of the exporters may have been captured by this approach. The inability to follow the rules of random sampling may therefore not pose severe problems of validity.

Development of instrument:

Primary data were gathered by using questionnaires. A draft questionnaire was discussed with the Director General of the Board of External Trade who in turn solicited written comments from four senior members of his staff. On the basis of these comments two types of revisions were indicated: the need to eliminate redundant questions and the desirability of introducing additional variables to reflect the realities of business conditions in Tanzania. After pre-testing the revised questionnaire on a few exporters in Dar-Es-Salaam, more changes of an editorial nature were made to remove typographical errors and improve readability, without materially altering the content of the instrument.

The questionnaire used was highly structured, using Likert-type scales, incorporating fill-ins and rankings. This provided comparable responses, which facilitated coding and analysis. A few questions were intervally-scaled whenever data permitted. At the end of some sections, open-ended questions were introduced in order to capture variables not included in the structured questions.

Subjects and procedures:

The population for this study is export management of manufacturing firms in Tanzania. Data collection was by means of a personal survey of the executive most responsible for or most knowledgeable on the firm's export activities. Personal surveying was chosen on two grounds. First, this approach was more likely to improve the response rate, as people have a greater obligation to respond when they have face-to-face encouragement. Second, interaction with company executives afforded an insight into theoretical and practical issues not anticipated by the study. Whenever possible, prior to company visits, letters, explaining the purpose of the study and requesting cooperation were sent to the Chief Executive Officers of the identified firms.

Data analysis:

Data were obtained from survey of export managers of 80 firms. Thirteen firms that exported nothing were excluded from the study because their responses could not be interpreted meaningfully. Seven firms which had incomplete data on the criterion variable (sales data) were also excluded from the study. This procedure yielded 60 usable questionnaires.

The 60 firms were ranked in descending order on the basis of their export-to-total sales ratio**.** The firms were then divided into Low and High Exporters relative to the median (10.66%) in the sample. Low Exporters were defined as firms whose ranking was equal or less than that of the median firm. This procedure resulted in the identification of 30 Low Exporters and 30 High Exporters.

Data analysis was conducted in such a way as to contribute towards answering our broad research question: "What significant differences in structure exist between the Low and the High performing firms?" To answer this, bivariate analysis or the relationship between two variables was carried out. The variables selected, and the manner of analysis should be helpful in inferring the existence or non-existence for that matter, of export causal relationships. The statistical methods of analysis used were frequency counts in cross-tabulations for nominal data and comparison of category mean differences for interval data. The hypotheses were tested utilizing the chi-square (χ^2) test for nominal data and the t-test of independent samples for interval data, with significance for both tests initially established at the 0.05 level or better.

FINDINGS

Table 3 contains the results of investigation into all the hypotheses employed in the study. Four variables, "private ownership", "average sales level", "export experience" and "number of foreign languages spoken" displayed differences between the two performance groups that reached statistical significance at the conventional level of 0.05. No new variable reached significance when the significance level was relaxed to 0.10. We now turn to the discussion of each hypothesis and its associated test variable(s), grouped by a broad factor.

Administrative Structure: Test of hypotheses 1, 2 and 3:

The first three hypotheses were based on the assumption that firms initially manage foreign operations using the existing domestic marketing personnel and facilities. These personnel may not understand many of the difficulties of international business. Hence success under this administrative structure may be limited. Thus firms that commit resources to establish additional facilities that these hypotheses suggest (separate international unit, overseas agents, or foreign subsidiary) are likely to become relatively higher performing firms.

In testing the first hypothesis managers were asked to state whether their firm has a "separate international unit" by ticking against a "Yes" or "No" response. The same question was repeated but in regards to hypothesis two on "overseas agent" and hypothesis three on "overseas subsidiaries". The hypotheses were tested by seeing whether the percentage of firms that adopted these administrative structures was higher in the high performance group than in the low performance group.

In regard to the first hypothesis, the results showed that the percentage of firms that had a separate international unit was slightly higher for High Exporters (at 24%) than for Low Exporters (at 23%). As expected, this tiny difference was not significant on the chi-square test of differences between category percentages. In regard to the second hypothesis, the percentage of firms that had "overseas agents" was higher for High Exporters (at 43%) than for Low Exporters (at 29%), a difference of 14 percentage points. This difference was, however, statistically not significant, but was in the hypothesized direction. With regard to the third hypothesis, the percentage of firms that had "overseas subsidiaries" was, contrary to hypothesis, lower for Higher Exporters (at 35%) than for Low Exporters (at 38%), a small difference of 3 percentage points, and statistically not significant.

Ownership structure: Test of hypotheses 4 and 5:

Hypotheses four and five were concerned with testing whether ownership matters in export performance. In order to test the hypothesized relationship between ownership and performance, two measures of ownership were employed – private ownership and foreign ownership.

Private firms were defined as companies in which the private sector owns more than 50% of the shares. Hypothesis four was tested by checking whether the proportion of firms that were privately owned was higher in the High Exporter group than in the Low Exporter group. The results confirmed that the percentage of private firms in the high performance group (60%) was much higher than that for the low performance group (27%). The difference of 33 percentage points was significant at the 0.05 level of probability.

Hypothesis five was tested in a similar fashion; firms with more than 50% ownership by non-citizens were classified as foreign owned. Hypothesis testing was done by inspecting whether the percentage of firms that were foreign owned was higher in the high performance

group than in the low performance group. The results showed that, contrary to hypothesis, the percentage of foreign owned firms in the high exporter category (37%) was much lower than that in the low exporter category (56%). However, the difference of 19 percentage points was not statistically significant.

Firm demographics: Test of hypotheses 6 and 7:

In testing hypothesis six, two traditional measures of firm size were employed: sales and number of employees. Contrary to hypothesis, there was a trend for sales volume to be inversely related to export performance. Specifically, while the average sales for High Exporters were 650 million shillings, the average for Low Exporters was more than six times that figure at 4,016 million shillings. These large differences were significant at the 0.05 level. When the number of employees was considered the results showed that Higher Exporters were, according to hypothesis, larger (average 696 employees) compared with Low Exporters (average 561 employees); the difference of 135 employees was, however, not significant.

In testing hypothesis seven, two measures were employed: business and export experience of firm. Business experience was measured by the duration the firm has been in business, regardless of whether it was exporting or not. Export experience was gauged by the number of years that a firm has been exporting consistently.

The results show that contrary to expectation, the mean business experience was slightly lower for High Exporters (18 years) compared to that for Low Exporters (19 years); this small difference of 1 year was not significant. However, the results in regard to analysis of export experience the results were in the expected direction with High Exporters (14 years) being slightly more experienced than Low Exporters (13 years); this small difference was nevertheless significant in statistical terms. These results suggest that, as expected, *export experience* (a more relevant factor), appears to be a better explanatory factor of export performance than *business experience* per se.

Management demographics: Test of hypotheses 8, 9 and 10:

The hypothesized relationship between management characteristics and export performance was operationalized using the concept of external orientation. The term "external orientation" is used here to describe the potential exposure of a firm's management to world events that may boost exports or imports. Three indicators that facilitate management external orientation were identified as the number of foreign countries visited (hypothesis 8), number of foreign languages spoken (hypothesis 9), and level of education (hypothesis 10). The aim was to see if management of high exporting firms had a higher score on each of these external orientation indicators.

The results show that the average number of foreign countries visited did not differ significantly between the High Exporters (3.75) and the Low Exporter group (3.86), although there was trend for low exporters to visit more countries; contrary to hypothesis. With regard to foreign languages, consistent with hypothesis, on average High Exporters (2.34) spoke more foreign languages than Low Exporters (2.14). With regard to education, contrary to expectations, there was a trend for High Exporters to be less educated. While only 55 percent of High Exporters had tertiary education, the corresponding proportion for Low Exporters was higher at 63 percent. The difference of 8 percentage points was statistically not significant.

DISCUSSION OF FINDINGS

Export administrative structure:

The finding that a separate export administrative structure was not associated with export performance was contrary to hypothesis. In one study Bilkey (1982) found that having a separate export unit was the best solution. In another study, the same author (Bilkey, 1985) found that using an affiliate was the best way to handle exports of consumer goods, while having own export department was the best way to handle exports of intermediate products, and, for industrial exports to have exports handled by an outside organization.

It appears that the best way to organize for exporting is contingent upon the situation. It may vary, for instance, between industrial and consumer goods, or between stable and turbulent environments. It is concluded that our research findings were not revealing, perhaps because the concept was not operationalized to reflect contingency analysis.

Ownership:

The study made two ownership investigations. The first investigated *private ownership* and found a strong positive association between private ownership and performance. This finding is consistent with expected behavior. There is a major difference between the private and state-owned business decision-maker. Private business decision-making is mainly based on economic rationality. High risk ventures are avoided, unless high returns are expected. In the event of success, the entrepreneur takes all profits. In the event of failure, the venture is abandoned at an early stage, otherwise bankruptcy may follow. The entrepreneur is therefore careful in making decisions - the desire for personal gain is the driving force.

On the other hand, in state-owned business decision-making prestige rather than economic rationality may be the dominant consideration. The desire to build empires of influence may dominate, as small losses can be expected to be subsidized by the Government and turned into large permanent losses. Negligence and profusion may therefore prevail more in the management of the affairs of state-owned enterprises than in those of private property. On the basis of this reasoning, the private sector can be expected to perform better because there is less negligence. This expectation was consistent with the research findings.

The second ownership dimension investigated was *foreign ownership* of firms. This endeavor was based on the assumption that a firm's probability of exporting may tend to vary directly with foreign capital participation. The reasoning behind this was that firms with some foreign equity participation may, in general, be better placed to export than local ones because contact with overseas owners (parent firms or shareholders) may confer advantages such as established marketing connections which allow access to up-to-date technology and take advantage of established brand names. The research findings did not support this hypothesis.

Two alternative explanations may help in understanding why the findings differed from expectations. Contrary to the original hypothesis, foreign interests may actually inhibit rather than encourage export efforts by firms. First, foreign owned firms might be at a disadvantage compared to locally owned firms that may get preferential treatment in government export promotion programs. Second, it may be that where foreign interests (usually multi-national corporations) also have interests in similar firms in their own countries or elsewhere, they may define market areas in order to protect the operation of its other interests. The technology made available to subsidiaries may be out of date, making its products export uncompetitive. It follows that depending on the way the markets are defined, and the technology made available, it may result in increased, about the same or decreased exports by a particular firm.

A potentially useful research direction may therefore involve concentrating on the differential (dis)advantages arising from collaboration between domestic and foreign interests, rather than foreign ownership per se. Efforts could therefore be directed towards studies of the effects of collaborations such as licensing, management agreements, consultancy agreements, and sectoral participation by foreign and domestic firms. Efforts of this kind by Torre de la (1971) showed that in Columbia, Nicaragua, and Mexico, foreign firms had an advantage over domestic firms in exporting more differentiated products.

Firm demographics:

In this study, the relationship between size and export performance is mixed. While there was a significant positive relationship between absolute sales and export performance, however, there was no significant relationship with the number of employees. In theoretical terms, the relationship between the size of a firm and export performance is clear. Large firms are expected to be more successful exporters than small ones because their larger size allows economies of scale to be realized, thus lowering unit costs. In empirical studies, however, the relationship is rather unclear and researchers are divided on this issue. Consistent with our findings, one early study found a positive relationship between firm size and exports (Tookey, 1964), and another found no relationship (Bilkey and Tesar, 1977).

In the light of these earlier contradictory findings, Cavusgil (1984) considered firm size as a source of differential advantages which enhanced performance. He postulated that it was more appropriate to view firm size as a concomitant variable (associated with export activity) rather than a causal factor. The explanation was that larger size usually implies greater availability of resources (financial and managerial); hence the true relationship was not between size and performance but between advantages arising from larger size and performance. Firm size may therefore be considered a proxy variable for potential advantages arising from size.

It is concluded that the above discussion reconciles the divergent findings. Size per se may or may not be associated with performance. It is the associated advantages which size may offer that matter. The advantages include possibilities to exploit economies of scale, easier access to financial markets and ability to hire good managers. Export competitiveness may therefore be expected to be associated with the various differential advantages arising from size rather than the mere physical size of a firm.

The hypothesis that export experience was positively associated with performance was based on the premise that all things being equal, the greater the experience of a firm, the greater the likelihood that it will perform better because of the greater accumulated knowledge. It is not immediately clear why our findings did not disclose significant association between experience and performance. However, it seems meaningful that there is greater association of performance with export experience rather than business experience.

Managerial demographics:

In regard to managerial demographics previous researchers have tried to investigate observable characteristics of managers that could be valid predictors of their performance as exporters. A myriad of individual factors including personality traits, attitudes, knowledge, experience and motivation have been used. However, this empirical study was limited to one broad factor called external orientation that was measured by three variables - extent of foreign travel, ability to speak foreign languages and education. These variables were considered to extend a manager's horizon in the external world and therefore likely to be positively associated with preferences for foreign marketing.

The lack of a positive and significant association between foreign travel and performance, though contrary to expectation, was not surprising. Perhaps not all foreign travel is equally important in export terms. For example, foreign travel for religious, medical, or vacation, may not be quite important. Foreign business travel may be a more important factor in export determination. This study was not operationalized to capture this. This is a tip for future researchers. The finding that high exporters tend to speak more foreign languages was in the expected direction. However, the existence of a negative association between education and performance was surprising.

All in all, ten hypotheses, measured by 12 structural test variables were investigated for associations with export performance. Only four (private-ownership, average sales level – antithesis, export experience, foreign languages spoken) displayed statistically significant relationships with performance. Most of the remaining variables were in the hypothesized direction or could be explained by alternative hypotheses.

ANALYSIS OF EXTREME GROUPS

This section presents, in a nutshell, the results of re-analyzing the data with respect to extreme low and extreme high performers. Re-analyzing the data with respect to extreme groups was made necessary given the rather less revealing results noted in the previous analysis, which used the full set of the data. The approach is based on the assumption that classifying exporters into two groups fails to differentiate firms that are in transition between the low and high performance categories. Thus restricting the analysis to extreme groups may reveal differences that were not as prominent in the analysis of all the data.

Methodology: Extreme grouping

The criterion variable (export-to-total sales ratio) was used to classify the 60 sample firms in such a way as to keep the bottom 20 firms and the top 20 firms. The middle group of 20 firms was excluded, so that the analysis might deal only with the two extreme groups. The extreme bottom and extreme top groups was referred to as Low Low Exporters and High High Exporters, respectively. Only new and statistically significant findings are presented here in detail.

Findings: Extreme groups

Table 4 summarizes the results of exploring differences in structure between the Low Low and High High Exporters. Two main points emerge from the re-analysis.

1. The four variables that were significant in the analysis of the whole data also emerged significant in this analysis of extreme groups (not shown in Table 4).
2. Four new variables became significant in this analysis. Two of these behaved as hypothesized. That is High High Exporters used agents and were larger in terms of employees. The other two which are foreign ownership and level of education were in anti-thesis.
3. The negative trends for all these variables were evident in the analysis of the whole data but became significant in this analysis of extremes.

A possible explanation for the negative association between foreign ownership and performance has been speculated earlier in this study. A possible explanation of the unexpected negative association between education and performance can be found in the country's educational policy. In Tanzania education is paid for by the state. Most university graduates were, until recent years, required to work for either the state owned enterprises or the civil

service. Agency theory suggests that negligence and profusion is expected to prevail more in the management of state owned enterprises, who are therefore likely to become Low Exporters. It appears that the positive impact that education was expected to bring on performance may have been dominated or confounded by the ownership factor.

In all the analysis of differences between the polar extreme performance groups was satisfactory in highlighting the differences between the Low Low and High High exporters. It tended to confirm and reinforce many of the differences that were observed in the analysis of the whole data set. No contradictions were observed.

CONCLUSIONS AND IMPLICATIONS

This section ties together the entire study. First, the key findings are translated into a meaningful set of conclusions. Second, based on these conclusions, the implications for public policy formulation, managerial action, and export marketing theory are discussed. Third, suggestions for future research are put forward.

Conclusions

The study makes two broad contributions to our understanding of export causal relationships. The findings are both at variance and in conformity with existing theory.

1. The findings are different because only a *few* of the structural factors, which were derived mainly from the literature in advanced countries, are tied significantly to export performance. This may be explained in terms of the "unsettled", undeveloped industrial structures and the inward looking strategies (Lall, Khanna, and Alikhani, 1987) of Tanzania and many developing countries, all of which seem to reduce the explanatory power of conventional trade theories.
2. Although many of the structural variables were not significantly tied to performance, most were nevertheless in the hypothesized direction or could be explained by alternative hypotheses. The trends are consistent with the literature from advanced countries upon which the variables were based. This implies that structural factors affecting export performance may be *universal*.

Implications for Management

1. An entrepreneur contemplating operation in Tanzania is advised that this study found that only four out of 12 structural factors were significantly associated with export performance. The number increased to 8 when polar extreme performers were analyzed. This experience of other businesses may be helpful to the entrepreneur in formulating competitive strategies based on firm structuring.
2. In appraising performance of managers operating in Tanzania, it is important to bear in mind the constraints placed on them by the environment. Infrastructure is known to be a critical bottleneck. Financial infrastructure, in particular credit facilities is not well developed. These environmental constraints partly explain why some of the structural factors which are normally subject to managerial control were not significant. Although not significant, most were in the hypothesized direction or could be explained by alternative hypotheses. The implication for the selection of staff is that the caliber of managers which is considered a paramount factor in advanced countries (Bilkey, 1978) remains an important factor in Tanzania also, but at the moment it appears that the effect of structure which is subject to managerial control is overridden or confounded by environmental factors. The situation is nevertheless, changing rapidly. Given the changes currently under way in the

macroeconomic environment which point towards a more outward looking policy, and as changes occur; factors subject to managerial control may begin to play a larger role in export determination.

Implications for Theory Development

In many ways, the findings of this study extend the knowledge gained from earlier research. It extends knowledge by demonstrating that despite the universality of export determinants between Tanzania and advanced countries, the relative importance of the factors appears different. Although not studied explicitly, it seems that, contrary to observations from advanced countries, environmental factors appear to play a larger role in determining performance than structure that is subject to managerial control. Specifically, in advanced countries the influence of environmental factors such as infrastructure which is well developed is taken for granted. In Tanzania these factors, among others, pose critical bottlenecks to the export performance of many firms. It follows that in a study on export performance in Tanzania (and Tanzanian- type economies) which takes the environment for granted (i.e. omits the environment), as this study did, may be misleading because of under-specification of the causal factors.

Suggestions for Future Research

During the course of this research, several directions or suggestions for follow-up studies were indicated or implied that may be of benefit to future investigators. Some of them are as follows:

1. The findings suggest that performance may be more a function of the environment than managerial capability. This implies that studies, which focus on measuring environmental variables, may be more revealing than those that deal with managerially determined factors under the current macro-environmental framework.
2. Other investigators may wish to test the validity of the findings reported here by replicating the study in other underdeveloped economies, but with larger samples. Until this is done, the conclusions of this study remain tentative.
3. The study did not control for possible confounds or moderating effects such as type of industry, type of product or company characteristics on structure. Future researchers are advised to take cognizance of these important factors.
4. Theory suggests that structure does not affect performance directly; instead the real relationship is the fit between strategy and structure. Future researcher are advised to designed their studies based this contingent assumption.

Figure 1: **Components of Export Structure**

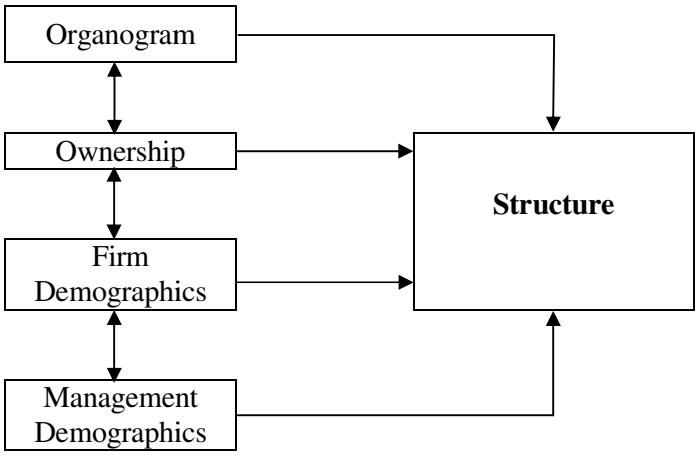

Figure 2: A Model of Export Performance

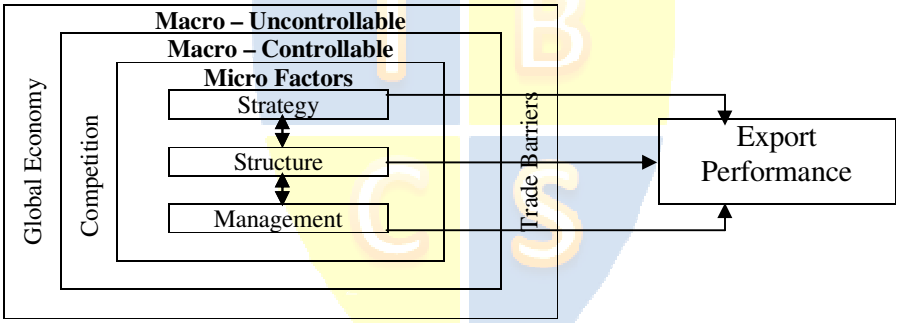

Figure 3: The Macro-Micro Dichotomy and Export Determination

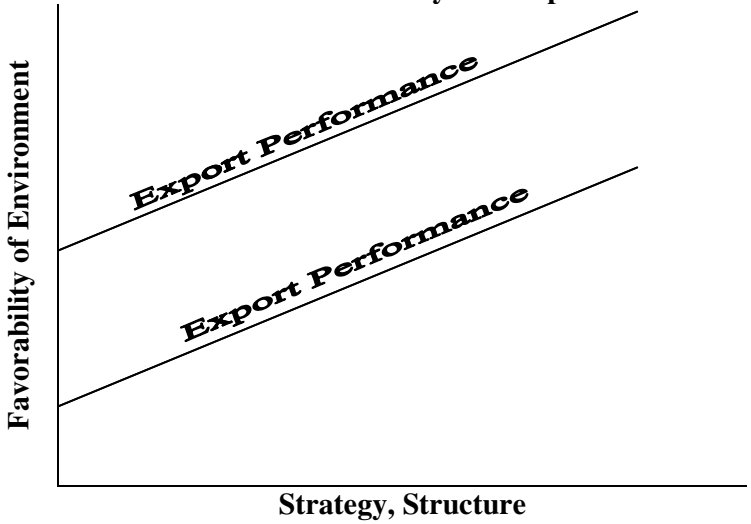

Table 1: Measures of Export Performance
1. Financial Measures
• Sales measures • Profit measures • Growth measures
2. Non-Financial Measures
• Perceived success • Satisfaction • Goal achievement
3. Composite scales
Source: Zou (1998).

Table 2: The Macro-Micro Dichotomy

	Controllable	*Uncontrollable*
Macro	1. Taxation, Infrastructure, Domestic export barriers.	2. World economic growth, trade barriers by other countries.
Micro	3. Strategy, Structure	4. Competition
Source: Adapted from Albernathy, Clark and Kantrow (1983:4)		

Table 3: Results of χ^2 and t-Tests, Structural Variables and Export Performance

	Exporters				
	Low (n=30)	*High (n=30)*	*Differences*	*χ^2 Test*	*T-Test*
Administrative Structure					
1. Separate export unit	23%	24%	1%	0.942	
2. Overseas agent	29%	43%	14%	0.265	
3. Overseas subsidiary	38%	35%	-3%	0.785	
Ownership Structure					
4. Private-ownership	27%	60%	33%	**0.009 Sig.**	
5. Foreign ownership	56%	37%	-19%	0.153	
Firm Demographics					
6. Average sales level	4016	650	-3366		**0.040 Sig.**
7. Average number of employees	561	696	135		0.338
8. Business experience in years	19	18	1		0.283
9. Export experience in years	13	14	1		**0.012 Sig.**
Management Demographics					
10. Number of countries visited	3.86	3.75	-0.11		0.676
11. Number of foreign languages spoken	2.14	2.34	0.2		**0.027 Sig.**
12. Tertiary Education	63%	55%	-8%	0.524	

Table 4: Extreme Groups Analysis: Results of χ^2 and t-Tests

	Exporters				
	Low Low (n=20)	*High High (n=20)*	*Differences*	*χ^2 Test*	*T-Test*
Administrative Structure					
1. Overseas agent	21%	47%	26%	**0.087**	
Ownership Structure					
2. Foreign ownership	71%	35%	-36%	**0.031**	
Firm Demographics					
3. Average number of employees	474	721	247		**0.066**
Management Demographics					
4. Tertiary Education	65%	40%	-25%	**0.093**	

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