# An Empirical Investigation of Perceptions of Export Barriers Using Mental Models Theory

Peter Yannopoulos and Margarita Kefalaki

**Abstract**

This study attempts to study differences in perceptions of export barriers of managers of Canadian SMEs using mental models theory. Mental models represent perceptions and take the form of shared cognitive structures and shape managers' decisions. Mental models theory helps explain differences in perceptions of export barriers. In this study we survey the literature on factors affecting perceptions of export barriers and postulate various hypotheses using stage of internationalization of the exporting firm, years of experience, size of firm, and degree of export success. Then we test these hypotheses using the perceptions of export barriers of managers of small and medium size Canadian firms. The results provide limited support for the hypotheses stated in the paper. This paper contributes to the literature on export barriers by introducing the notion of mental models.

Keyword: Mental models, export barriers, SMEs, Canadian firms, stage in internationalization

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It is commonly recognized that exporting is vital to the health and dynamism of a modern economy (Dosoglu-Guner, 1999). Exporting contributes to an economy in a number of ways including improvement in the balance of payments and the standard of living of its residents, employment and increased revenues in the form of profits and taxes. This is one of the main reasons why increasing export activity is a goal of many national governments (Gripsrud, 1990). In order to augment national export activity, governments and export assistance agencies introduce export support programs designed to decrease barriers to exporting and to encourage and motivate companies to become active exporters,

For individual firms, exporting is one of the most established forms of operating internationally (Hansen, Gillespie and Gencturk, 1994). Firms looking for growth opportunities increasingly recognize exporting as a viable strategy (Mayes and Soteri, 1994). Many Canadian firms are actively involved in exporting with approximately two-thirds of Canadian companies doing business in foreign countries, while about one-quarter of Canadian exporters export to their foreign subsidiaries (Keegan and Seringhaus, 1996).

The field of exporting has been extensively researched in recent years generating an extensive body of empirical and theoretical research. Among the areas that have attracted considerable interest are government export support programs (Czinkota, 1982; Seringhaus, 1986; Seringhaus, 1987; Seringhaus and Rosson, 1990; Crick and Czinkota, 1995) motivation to export and export barriers and (Barker and Kaynak, 1992; Bauerschmidt, Sullivan and Gillespie 1985; Christensen, da Rocha, and Gertner, 1987; Katsikeas, 1996; Leonidou, 1995a, 1995b).

Currently, we are witnessing dramatic changes in international trade including growing liberalization of trading systems, regional economic integration, and major advances in information, communication, and transportation technologies. These major advances are bringing customers and companies close together (Czinkota, Ronkainen, Farell, and McTavish, 2009; Keegan, 2002) and have made the business environment more globalized and interconnected, providing firms with increased opportunities to get involved internationally (Czinkota, Ronkainen, Farell, and McTavish, 2009; Leonidou, 2004).

Despite the changes in the global marketplace, many small and medium size firms fail to take advantage of these foreign opportunities (Gripsrud, 1990). Studies show that when companies are confronted with the decision whether or not to export, they are generally reluctant to decide in favor of expanding and often decide to retain their non-exporting status (Morgan, 1997). According to experts, these firms' decision to begin exporting is negatively affected by the degree of export barriers perceived by the top executives of the organization (Leonidou, 1995b;

Welch and Wiedersheim-Paul, 1977). Also the level of export intensity is negatively affected by perceptions of export barriers (Axinn, 1985). Therefore, understanding perceptions of export barriers is crucial for managers and public policy makers in order to reduce their negative impact on export activities. If perceptions of export barriers and their causes can be identified, public policy officials and export assistance agencies could better target their efforts intended to alleviate such hindrances (McAuley, 1993; Seringhaus and Rosson, 1990).

Our motivation for this study stems from our desire to contribute to the literature that examines differences in perceived export barriers. We draw on the theoretical framework of the mental models to examine how perceptions of barriers to export differ among small and medium Canadian exporters. Mental models theory has been illuminating to marketing and business scholars for its contribution in explaining how managers make decisions in light of environmental uncertainty (Day and Netugandi 1994; Karakaya and Yannopoulos 2010). Our study is expected to contribute into the literature of perceived export barriers differences by using mental model theory as our theoretical framework.

Research into managerial mental models concludes that they are specific to different settings and their differences reflect the environment and the experiences of the managers in their particular setting (Day and Netugandi, 1994; Walsh, 1995). Consistent with mental model theory, a number of authors have found that managerial mental models of export barriers vary depending on certain external, organizational, and other factors (Bilkey and Tesar, 1977; Bilkey, 1978; Thomas and Araujo, 1985). But studies relating organizational variables to perceived importance of export barriers have found contradictory results. For instance, some studies found that exporters perceive export barriers as less important and difficult to overcome compared with non-exporters (Bello and Barksdale, 1986; Burton and Schlegelmilch, 1987; Cavusgil, 1984; Ramaswami and Yang, 1990; Suarez-Ortega, 2003). Other studies found that exporters perceived more barriers than non-exporters (Bilkey, 1978).

The purpose of this paper is to examine empirically differences of perceived export barriers by managers of small and medium size Canadian firms. This paper is the first, to our knowledge, that incorporates mental models in export barriers research. Mental models are knowledge frameworks that provide a manager with a coherent structure of knowledge about a domain (Day and Netugandi 1994). The specific objective of our study is to determine if there are differences in managerial mental models for firms that operate in different organizational settings including stage of export development, size, percentage of revenues from exports and years of export experience on the mental models of export barriers faced by small and medium sized Canadian firms. We believe the incorporation of mental models theory can help us obtain a better theoretical understanding of how cognitions of export barriers differ among managers. It is known that perceptions and beliefs shape the behavioral and cognitive development of the organization (Karakaya and Yannopoulos 2010). A firm's strategic posture is tied closely to its perceptions and belief systems (Walsh 1995). Consequently, belief systems partially determine a firm's strategy and the direction of organizational change (Fiol and Lyles 1985; Mintzberg 19??). The decision to export depends on the managers' perceptions, beliefs, and mental models.

First, we first review the relevant literature of export barriers and mental models. Then we develop hypotheses which are tested with survey data collected from small and medium size Canadian firms. We then analyze the results and draw relevant managerial and theoretical conclusions. At a time when exporting activity is so vital to firms and economies, our article contributes to this important area by providing new evidence about the differential impact of various organizational factors on the perceptions and managerial mental models of export barriers. Our paper contributes to the literature in two ways. First, by testing several hypotheses about the impact of various factors on perceptions of export barriers by Canadian SMEs. Second, by incorporating mental models we also believe that research in this important area can benefit and lead to more fruitful avenues in our quest to increase our understanding of export barriers.

## Literature Review

### Nature of Export Barriers

Every business that has decided to expand its operations into another country has to select a foreign market entry strategy (Erramilli, 1992; Maigman and Lukas, 1997). The entry strategy is the starting point of all future activities in the foreign market and one of the most important strategic decisions made by managers of companies seeking to expand into global markets (Kogut and Singh, 1988: Sarkar and Cavusgil, 1996).

Exporting is a well-established form of involvement in foreign markets. Exporting is an entry mode to foreign markets that requires little investment and minimal risk (Bertrand 1989,). It also enables a company to get involved in foreign markets with a minimal knowledge of export procedures (Root, 1994). Firms undertake exports in order to spread the risk across different markets, generate revenues to fund growth and profitability, exploit idle operating capacity, and to improve product efficiency, quality, service, and technological standards in the organization (Czinkota and Ronkainen, 2001). Companies commonly engage in direct exporting by engaging a foreign country distributor who acts as the importer (Czinkota, Ronkainen, Farell, and Mctavish, 2009). Indirect exporting involves selling through an intermediary in the foreign country.

Despite, however, the many benefits of exporting, many firms are still reluctant to get involved in exporting due to serious difficulties and challenges facing them (Dosoglu-Guner, 1999). Even exporting firms face similar problems, making the task of further progress in their export efforts difficult. In addition to entry barriers that are common to domestic firms such as differentiation, increasing competitive intensity, cost differences and switching costs, firms expanding into foreign markets may face additional export barriers, which they must overcome in order to successfully enter the market. As a result, export barriers often result in failure in the foreign activities of firms, leading to considerable financial losses as well as limiting the ability of a country's economy to achieve a greater performance (Leonidou, 1995b).

Export barriers refer to those constraints that impede a firm's efforts to get involved in overseas markets through exporting. Export barriers can be classified in different ways. Generally speaking, they can be distinguished into internal export barriers involving organizational resources and capabilities and external export barriers including barriers pertaining to the home and host countries in which the firm is doing business (Cavusgil, 1984; Leonidou, 1995a, 2000). Leonidou (1995b, 2000) classified internal export barriers into functional, informational, and marketing and external barriers into procedural, governmental, task, and environmental barriers. Seringhaus and Rosson (1990) classified export barriers according to operational/resource-based, motivational, informational, and knowledge barriers.

Other researchers have grouped export barriers into four categories: lack of export knowledge, internal resource constraints, procedural barriers, and exogenous variables which hinder a firm's ability to undertake export activities (Ramaswani and Yang, 1990). Export knowledge includes planning (Suarez-Ortega, 2003) and knowledge about export opportunities in the foreign market (Czinkota, Ronkainen, Farell, and McTavish, 2009). Initiating export activity requires the existence of a certain amount of resources, making internal resource constraints such as financial resources, personnel, and production capacity another barrier to export activity, especially for small or medium-sized firms (Bilkey, 1978). Procedural barriers include red tape and documentation (Keng and Jiuan, 1989), input tariffs (Barker and Kaynak, 1992), and transportation and distribution difficulties in foreign markets (Barker and Kaynak, 1992; Kedia and Chokar, 1986). Exogenous factors include competition in the foreign market (Kedia and Chokar, 1986) and instability in the foreign market (Kaynak, Ghauri, and Olafsson-Bredenlow, 1987).

**The Ontology of Mental Models**

Uncertainty characterizes many business decisions (Denzan and North, 1994). Managers reduce uncertainty to manageable proportions by employing cognitive schemata or mental models that help them make sense of difficult competitive environments (Barnes, 1984; Daft and Weick, 1984; Stubbart, 1989) and interpret complex business phenomena (Day, 1994; Denzau and North, 1994; Walsh, 1995). Mental models are simplifying frameworks that include assumptions about how markets work and how to compete in these markets (Day, 1999). This property of mental models helps reduce information demands on decision makers and makes information processing more manageable by structuring experience, and by facilitating information acquisition and retrieval (Walsh, 1988).

Mental models are used by managers to simplify and make sense of these complex entities, to process information, to draw inferences, and to make decisions (Kieler and Sproull, 1982). Individuals develop mental models of their environment and of possible actions and the consequences of those actions in their environment (Simon, 1955). Research in managerial mental models concludes that mental models are developed over time from personal, professional, and a firm's past experiences, successes and failures, resources, and strategies (Day, 1994; Markides, 2000; Mintzberg, Ahlstrand and Lampel, 1998). Different managerial mental models are the result of different environmental and manager experiences and are specific to a particular environment (Hambrick and Mason, 1984; Ireland, Hitt, Bettis, and De Porras, 1987; Kabanoff and Brown, 2008).Organizational members' common experiences are embedded in shared mental models (Gebhardt, Carpenter, and Sherry Jr., 2006). These shared mental models enable organizational members to communicate and elaborate effectively in gathering, disseminating, and acting on market information (Nonaka, 1994).

Organization theorists have used these ideas to propose a model of managerial cognition to explain how managers make decisions in the face of ambiguous and ill-defined decision contexts (Daft and Weick 1984; Walsh 1995). Since the cognitive abilities of people are limited relative to the complexity of the environment with which they interact and to make sense of the incoming information, individuals employ cognitive structures or mental models. These cognitive structures are mental templates that act as an information filter that simplify and organize the information received from the external world (Kabanoff and Brown, 2008; Walsh 1995). Mental models reduce the complexity to a level that our minds can manage and allow people to make decisions. The filtered data are then incorporated into the strategies, routines, expectations, systems and behavior of the organization (Bettis and Prahalad, 1995).

Organizations collect information about various aspects of their business. But before they make sense of the information collected, they must make sense of it by simplifying and clarifying it so it can be understood by decision makers. Mental models imply that managers form cognitive representations of their external environment which in turn helps them interpret the incoming information and make decisions. These representations are the outcome of the managers' interaction with their environment (Mezias, Grinver, and Guth, 2001). Managers use their understanding of the environment to focus on the information that they consider important for decision-making (Porac and Thomas, 1990).

Organizational members share common experiences and these experiences are embedded in shared market and process mental models (Gebhardt, Carpenter, and Sherry, Jr. 2006). Shared mental models have also been called dominant logic or groupthink (Prahalad and Bettis, 1986). The creation and use of shared mental models is central to organizational researchers' view of learning organizations (Huber 1991; Nonaka, 1994). These shared mental models enable organizational members to communicate and elaborate effectively in gathering, disseminating, and acting on market information (Nonaka 1994). Managers use shared mental models to make sense of industry trends, competitors' actions, customer requirements organizational processes and relationships with various organizational stakeholders.

The key to effective sense making is the creation of shared mental models throughout the organization. Shared mental models, if they are widely shared, help avoid narrow interpretation of the environment by special interest groups or departments. But to lead to appropriate actions, shared beliefs about the consequences of organizational action need to be valid, given the environment in which they are made. However, strongly held shared beliefs often act as blinkers leading managers to reject environmental information that is contrary to their accepted views. As such, shared mental models can be a significant barrier to change (Mezias, Grinyer, and Guth, 2001).

Research shows that the diversity of shared mental models depends on the degree of environmental change. According to Reger and Palmer 1996) differences in managers' mental models tend to be more pronounced in turbulent environments. Changes in the environment cause managers to form a greater variety of competitive constructs Mason and Mittroff (1981). Managers in changing environments no longer rely on shared mental models and industry recipes no longer exist (Mason and Mittroff 1981). Consequently, marketing managers at competing firms view competition differently in fast changing environments (Mason and Mittroff 1981).

Studies show that managerial mental models and perceptions of export barriers differ depending on managerial, organizational, and environmental aspects of the firm (Keng and Jiuan, 1989; Kedia and Chokar, 1986; Leonidou, 2004). One of those factors is the firm's stage in its internationalization. The process of internationalization of a firm follows a process of incremental involvement - from pre-export to more extensive levels of institutional participation – and is shaped by uncertainties due to lack of knowledge of foreign markets (Suarez-Ortega, 2003; Johanson and Vahlne, 1990). According to Cagusvil (1990), the initial steps towards internationalization involve a gradual process over a relatively long period of time. This process is seen as an innovation within the firm and many firms begin exporting without a rational and deliberate plan (Cavusgil, 1990).

Research shows that firms in different stages in their internationalization process perceive different export barriers (e,g. Bilkey 1977; Leonidou 1995a). Consistent with research on mental models showing that experience affects the formation of mental models (e.g. Day 1994), these studies suggest that the degree of export development or export experience of a firm can explain the difference in exporters' mental models or perceptions of export barriers (Bilkey and Tesar, 1977; Bilkey, 1978); and the nature and severity of export barriers differ systematically from stage to stage or experience. Young firms are generally more sensitive to export obstacles than older firms (Leonidou, 2000) and are more vulnerable to barriers to exporting (Katsikeas and Morgan, 1994). Some researchers argue that non-exporters are not involved in exporting because export barriers weigh heavily in their mental models (Alexandridis, 1971; Bello and Barksdale, 1986; Burton and Schlegelmilch, 1987; Cavusgilm 1984; Kedia and Chokar, 1986; Ramaswami and Yang, 1990; Suarez-Ortega, 2003; Weinrauch and Rao, 1974). Furthermore, export barriers are perceived as more significant by firms with little international experience because of their lack of knowledge and understanding of the complexities of exporting (Madsen, 1989; da Silva and da Rocha, 2001).

Some researchers found limited or no differences in the mental models of export barriers among exporters and non-exporters (Dichtl, Leibold, Köeglmayr, and Müller, 1984; Lim, Sharkey and Kim, 1993). Other studies showed that export barriers can be present at any stage of a firm's internationalization (Bilkey and Tesar, 1977; Thomas and Araujo, 1985). At the other extreme, Bilkey (1970) observed that exporting firms perceive more export barriers compared with non-exporters. Bilkey (1970) explained this result on the basis that non-exporters, due to their lack of foreign market experience, tend to underestimate the task of overcoming export barriers. Doyle and

Schommer (1976) maintain that managers of non-exporting firms do have realistic expectations of the significance of export barriers. It is possible that non-exports do not seek export-related information until they have developed an interest in evaluating exports as a possible strategy (Bilkey, 1978; Samiee and Walters, 1990; Wiedersheim, Olson, and Welch, 1978). Consequently, non-exporting firms that consider exporting as a viable strategy perceive export barriers to be less significant than those firms who have rejected exporting as a possible strategy (Morgan, 1997).

Research also shows that, in addition to stage in export development or experience, mental models and perceptions of export barriers may differ because of differences in firm size. Some researchers report that smaller firms perceive more export barriers than larger firms (Keng and Jiuan, 1989; Leonidou, 1995a). Similarly, Hook and Czinkota (1988) found that small firms consider certain export barriers as more significant than larger firms. Another study by Katsikeas and Morgan (1994) reports that firm size was associated with some export barriers but not all of them. Other studies report contradicting results (Aaby and Slater, 1989).

Other studies found that factors such as the firm's environment and managerial capabilities play an important role in shaping managers' mental models and perceptions of export barriers (Barrett and Wilkinson, 1985). Environmental factors shape mental models of export barriers by being the source of barriers in the home market such as logistics, and infrastructure. They can also be a source of barriers in the host market derived from economic, political, and sociological aspects of the environment. Managerial capabilities can impact the formation of mental models of export barriers. Managers who are incompetent, inward looking, and risk averse are more likely to perceive export barriers as more intense and more numerous than capable, risk-taking, and foreign-oriented managers (Dichtl, Köglmayr, and Müller, 1990; Bilkey and Tesar, 1977).

## Hypotheses Development

### Stage in Internationalization

Mental models are created by experiences and influence the approach to problem solving. Much like individuals, organizations develop mental models over time through education and experience and other factors. Different managerial mental models are the result of different managers' experiences and environment. Studies show that companies are not involved in export activities when they perceive substantial barriers to exporting (Alexandridis, 1971; Weinrauch and Rao, 1974; Bilkey and Tesar, 1977; Kedia and Chokar, 1986). Bilkey and Tesar (1977) and Bilkey (1978) suggest that the level of export development of a firm can explain the difference in the mental models and perception of export barriers. The nature and severity of export barriers differ systematically from stage to stage.

Leonidou (1995a) among others found a tendency by non-exporters to over-emphasize some of the export barriers investigated. But several authors argue that non-exporters, given that they have no prior export experience, perceive fewer barriers than exporters (Bilkey, 1970; Dichtl, Leibold, Köeglmayr, and Müller, 1984; Lim, Sharkey, and Kim, 1991). Hook and Czinkota (1988) in a study of Hawaiian firms found evidence that non-exporters emphasized obstacles associated with initiation of export activities including raising the initial investment, lack of information about exporting and tariff and non-tariff barriers. Exporters, on the other hand, placed more emphasis on what they called operational issues such as too much red tape, ill-trained personnel, and transport difficulties.

Bilkey (1970) found contradictory evidence in that exporters perceived more barriers than non-exporters. Bilkey (1978) maintains that non-exporters perceive fewer barriers than do marginal exporters who, in turn, see more barriers than active exporters. According to Bilkey (1978) non-exporters, given that they have no prior experience, perceive fewer barriers than marginal exporters. Bilkey (1978) also suggested that less active or marginal exporters perceive more export barriers than do active exporters. Sharkey, Lim, and Kim (1989) who tested Bilkey's hypotheses found that marginal exporters are not significantly different from non-exporters on any of the export barriers. They also found only partial support for the hypothesis that marginal exporters perceive more barriers than active exporters. Following the above discussion we postulate the following hypothesis:

*H1. The mental models of Canadian exporters more advanced in their stage of export development include fewer export barriers than Canadian exporters in less advanced stages of export development.*

**Years of Export Experience**

Mental models are the result of learning from experience and firms with more export experience should be able to cope with international difficulties more effectively. Export barriers dominate the mental models of firms with little international experience because of their lack of experience and understanding of the complexities of exporting (Madsen, 1989; da Silva and da Rocha, 2001).

Some research supports this argument, but the evidence is somewhat mixed. Madsen (1989) cites evidence that export barriers are perceived as more severe by firms with little export experience because of their lack of experience and knowledge of difficulties involved in exporting. Similarly, Suarez-Ortega (2003) found that perceived knowledge barriers, resource barriers, procedural barriers and exogenous barriers are higher for less experienced exporters than companies with more years of export experience. Similar findings have been reported by (Alexandridis, 1971; Bello and Barksdale, 1986; Burton and Schlegelmilch, 1987; Cavusgil, 1984; Katsikeas and Morgan, 1994; Kedia and Chokar, 1986; Leonidou, 2000; Ramaswami and Yang, 1990; Suarez-Ortega, 2003; Weinrauch and Rao, 1974).

Katsikeas and Morgan (1994) also found that less experienced firms perceived national export policy and perceived procedural complexity as more severe export barriers than larger firms. They also report, however, that more experienced firms perceived export pricing constraints as a more severe export impediment than smaller firms. As a result of this discussion we propose our next hypothesis:

*H2. Mental models of Canadian exporters with more years of export experience include fewer export barriers than Canadian exporters with fewer years of export experience.*

**Firm Size**

Several researchers report significant results with smaller firms perceiving more export barriers than larger firms (e.g. Keng and Jiuan, 1989; Leonidou, 1995a). Larger firms, given their superior resources and economies of scale, can deal with export barriers more effectively than smaller firms (Katsikeas and Morgan, 1994). This was empirically verified by Ghauri and Kumar (1989) who in their study of small Swedish firms found that smaller firms consider barriers to export as more significant than larger firms. Katsikeas and Morgan (1994) studied indigenous food-exporting manufacturers in Greece trading with overseas distributors in EC and found that smaller firms perceived more export barriers than larger firms. More specifically, their study revealed that smaller exporters perceived information/communication with export market, product adaptation and exogenous logistical constraints as more severe export barriers than larger firms.

But not all studies have confirmed this result. Hook and Czinkota (1988) found that small firms consider only certain export barriers as more significant than larger firms. Another study by Katsikeas and Morgan (1994) found that firm size was associated with some export barriers but not all of them. This contradictory result was confirmed in another study by Aaby and Slater (1989). This discussion gives rise to our next hypothesis:

*H3. Mental models of smaller Canadian exporters include more export barriers than larger Canadian exporters.*

## Export Success

A measure of export success of a firm is the percentage of sales accounted for by exports (Reid, 1982). This export level has also traditionally been regarded as an indicator of the overall importance of exports to the firm (Lee and Yang, 1990). As the firm's exporting efforts are becoming more successful, the share of exports as a percentage of the firm's sales grows. Success in exporting, in turn, implies that the firm has acquired the experience and knowledge to deal effectively with the complexities and difficulties posed by the intricacies of international trade. This leads us to the fourth hypothesis:

*H4. The mental models of Canadian firms with a larger percentage of sales accounted for by exports include fewer export barriers than firms with a smaller percentage of sales accounted by exports.*

# Methodology

## The Sample

A variety of firms based in the Niagara Region of Canada were mailed a questionnaire that contained questions related to their exporting activities. The purpose of the study was explained in an accompanying cover letter and encouraged recipients of the letter to participate in the survey. To encourage respondents to participate, respondents were asked if they wished to receive a copy of the summary of the report. Many respondents indicated that they indeed wished to obtain a summary of the results of the survey.

A total of 448 questionnaires were mailed and the number of questionnaires received is 137 for a response rate of 30.6 percent. Respondents who hadn't responded after a period of two weeks were reminded by telephone and were requested to complete the questionnaire. The response rate is roughly close to response rates of similar studies reported in the export literature. A substantial number of firms did not respond because they had quit their exporting activities. If the number of firms who are no longer involved in exporting activities were excluded from the sample population, the response rate would have been much higher.

While the participating firms ranged in size from 1 to 500 employees, the majority of participating firms employed fewer than 200 employees. In terms of number of years involved in exporting, firms ranged from 1 to 85 years with a small majority of them having been in the exporting business for less than ten years. Given its proximity to Canada, it is not a surprise that U.S.A. was ranked first in terms of importance to exporting business firms. Mexico and Western Europe were ranked second and third most important trading partners.

The mental models and perceptions of export barriers of respondents were measured with the use of the following method. Respondents were presented with a total of ten export barriers and were asked to respond by indicating whether they agreed or disagreed on a four point scale if they had experienced these export barriers. As it has been discussed earlier, managers form their shared mental models through their joint experiences which are reflected in their cognitive structures, beliefs and perceptions (Walsh, 1995). The list of export barriers presented to respondents was derived on the basis of export barriers discussed in the export marketing literature and discussions with managers of firms involved in exporting. The specific items on the list are too much red tape/bureaucracy, trade barriers like tariffs and quotas, transportation difficulties, government initiatives, insufficient assistance from support agencies, unfavorable conditions overseas, slow payments by buyers, payment defaults/bad debts, language barriers and lack of competitive products.

## Results

### Principal Component Analysis

Principal components analysis with varimax rotation was used to reduce the number of export barriers into a few factors. Four factors emerged accounting for 68.62 percent of the total variance (Table 1). As is normal, factors with eigenvalues one or greater were retained. The scree technique was also employed for additional information regarding the number of factors. The internal reliability of the factors was assessed with Cronbach's coefficient alpha (Churchill, 1979). As these values range from .46 to .72 they are considered satisfactory. The Kaiser-Meyer-Olkin measure of sampling adequacy is .63 and is considered satisfactory indicating that the data are appropriate for factor analysis (Sharma, 1996). In addition, the Bartlett test of sphericity is highly significant ($p = 0.00$) implying that the correlation matrix is not orthogonal and is, therefore, appropriate for factoring (Sharma, 1996).

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The first factor is labeled "host market barriers" since the statements dealing with export barriers originating in the host country - slow payments by buyers, payment defaults/bad debts, and unfavorable conditions overseas - have the highest loadings on this factor. The second dimension measures "export support programs" as lack of government initiatives and insufficient assistance from support agencies load heavily on this factor. The third factor is labeled "trade barriers" because of the high loading of the statements too much red tape/bureaucracy and trade barriers. The fourth factor is named “internal resource constraints” since the statements transportation difficulties, language barriers, and lack of competitive products have the highest loading on this factor.

**Comparison by Stage of Development**

In this paper, executives from a number of Canadian firms were presented with a number of statements representing commonly faced export barriers, as explained earlier, and were asked to indicate which of these export barriers they experience in the conduct of their export activities. Participant firms were grouped into two categories according to the stage in their export development; namely reactive and active exporters. The reactive category includes passive, reactive, and experimental exporters. Active includes exporters who are established, active, and committed to systematically researching and entering new markets or have a well-developed international business strategy.

Table 2 presents the results of one-way ANOVA of the responses of reactive and active exporters about the degree to which they agree that the four factors representing the export barriers included in the survey exist in their industry, including the mean values, F-values, and the level of statistical significance. As it can be seen from Table 2, the mean values of the export barriers are statistically significant only in the case of trade barriers, indicating a lack of difference in the mental models of export barriers for the two groups in the case of host market barriers, export support programs, and internal resource constraints. The results demonstrate that reactive exporters compared with active exporters were more concerned with trade barriers such as red tape/bureaucracy and non trade barriers. This leads us to partially reject the first hypothesis, as there are no significant differences in the managers’ mental models of export barriers among groups at different stages of export development in three out of the four groups of export barriers.

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**Comparison by years of exporting**

The second hypothesis was tested by dividing the sample firms into two groups of firms. Those firms that are have been involved in exporting for 10 years or less and those firms that are exporting for more than 10 years. The F-ratio values of the one-way ANOVA results shown in table 3 indicate that the two groups differ only in the case of export support programs. Specifically, less experienced exporters compared with more experienced exporters were more concerned with the lack of government initiatives and insufficient assistance from support agencies. This result can be viewed as providing partial support to the second hypothesis since less experienced exporters indicated more problems than exporters with more years in exporting in only one of the four export barrier factors. Thus, we conclude that less experienced exporters tend to perceive more export barriers only in the cases of lack of government initiatives and insufficient assistance from support agencies. We also conclude that experience with exporting has a limited impact on the formation of managerial mental models of export barriers.

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**Comparison by Size**

Table 4 presents the results of one-way ANOVA of perceptions of export barriers and firms of different sizes. This part of our analysis is to examine whether there are differences in the mental models of export barriers among firms of different size. We have divided firms into those that employ 1 – 25 employees and firms that employ more than 25 employees.

Since firms of different size have different resources and market power one would expect that smaller and larger firms would experience different export barriers, and as hypothesized the mental models of larger firms should include fewer export barriers. As it can be seen in Table 4, smaller firms experience a higher degree of difficulty only in the factor that represents trade barriers - too much red tape/bureaucracy and trade barriers - but not in the other three factors. This result is a partial support of the third hypothesis. We can conclude that firm size has a limited impact on the formation of managerial mental models of export barriers.

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**Comparison by percentage of revenues from exports**

Table 5 presents the one-way ANOVA analysis of the perception of export barriers and percentage of revenues earned from exports. According to the results shown in table 5, there are no differences in the perceptions of export barriers among the two groups. Contrary to studies showing that greater success with exports leads to the perception of fewer export problems, participants in this study did not provide supporting evidence, leading us to reject the fourth hypothesis. We can conclude that success of export efforts has no significant impact on the formation of managerial mental models of export barriers.

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**Conclusions and Implications**

The exporting field has been extensively researched in recent years. Among the areas that have attracted considerable interest are the areas of export barriers and motivation to export (e.g. Bauerschmidt, Sullivan, and Gillespie, 1985; Christensen, da Rocha and Gertner, 1987; Katsikeas, 1996; Leonidou, 1995b). Academic research in the field of exporting has shown that perceptions of export barriers activities appear to play a major role in export involvement (Dosoglu-Guner, 1999; Leonidou, 1995b). Firms do not exploit opportunities that exist in foreign markets because they perceive important obstacles or export barriers that impede their export activities. Such export barriers render operations in foreign markets more difficult than domestic markets. This can cause firms to view exporting with skepticism and refuse to expand into markets or if already involved in exporting to consider withdrawing from such activity (Leonidou and Katsikeas, 1996).

Export barriers encountered by firms involved in export activities are often experiential in nature (Leonidou, 1995b). These experiences are reflected in the shared models of managers (Hodgkinson, 1997). But for firms not involved in exporting, export barriers tend to be mostly perceptual in nature, reflecting the subjective opinions of the exporting firms' managers (Yang, Leone and Alden, 1992). Such concerns of non-exporters, whether experiential or perceptual, need to be addressed (Dichtl, Leibold, Köeglmayr, and Müller, 1984) in order to allow firms to achieve their export potential (Sharkey, Lim, and Kim, 1989). Therefore a better understanding of export barriers is necessary for government agencies and other export promotion organizations whose mission is to provide better services and support to export-minded organizations.

In this paper we discussed perceptions of export barriers against a backdrop of mental models theory. Managers develop their mental models in the process of producing and marketing their products or services. Mental models are developed over time through various mechanisms such as education, experience and conversations with others. Organizational mental models are also developed over time through word of mouth, employee socialization and training programs. They are shaped by the beliefs, personality, and actions of top management, the nature of the industry, and past strategic choices. Companies may develop a “dominant logic” based on the cognitive structure of upper managers’ mental models (Prahalad and Bettis 1986).

The present study provides limited support to the hypotheses stated earlier. The mental models and perceptions of Canadian exporters in more advanced stages of export development include fewer export barriers than Canadian exporters in less advanced stages of export development only in the case of trade barriers. In all other cases, reactive and active exporters are not associated with any significant difference in the perception of export barriers. This finding provides more support to studies that found no differences in the perception of export barriers by firms in different stages in their internationalization process, while it contradicts several others that did find such differences.

The study found that the mental models of Canadian exporters with fewer years of export experience do not include more export problems than Canadian exporters with more years of exporting experience except in the case of the factor representing export support programs that include lack of government initiatives and insufficient support from agencies. Therefore, exporters with fewer years of export experience appear to feel the impact of the lack of export support programs more than more experienced exporters. It is rather surprising to find differences in the mental models of export barriers of managers of firms in more advanced stages of internationalization to be somewhat different from mental models of managers with more experience. In previous studies of perceptions of export barriers, export experience has been measured in different ways such as firm export stages, degree of firm internationalization, and number of years of export activity (da Silva and da Rocha, 2001). So whether export experience or stages of internalization is used, one would expect similar results.

The mental models of smaller Canadian exporters include more export barriers than larger Canadian exporters, but only with respect to trade barriers in the form of red tape, bureaucracy and trade barriers such as tariffs and quotas. Smaller exporters, thus, appear to be disadvantaged relative to larger firms with respect to trade barriers but not the other three export barriers - host market barriers, export support programs, and internal resources constraints. Lastly we found that the mental models of Canadian exporters with greater export success measured by larger percentages of sales accounted for by exports was not supported by the results. The mental models of Canadian firms with various degrees of export success do not appear to be different.

Overcoming export barriers and increasing export activities is a goal of many modern governments. To achieve this goal, governments make available to exporting firms a variety of services designed to promote and increase the export profile of these firms. Many countries encourage domestic firms to initiate or increase their exporting activities and have initiated export assistance programs and export oriented strategies to assist firms in their exporting efforts (Crick and Czinkota, 1995). The Canadian government has initiated an export support program designed to facilitate the export activities of Canadian based firms. The program was developed after some consultation with the private sector, and is mainly a federal government assistance program. Export assistance programs in Canada are primarily a federal government responsibility and are, with the exception of certain programs, non-strategic in terms of their overall approach (Seringhaus and Botschen, 1991). Provincial governments and the private sector also provide some export assistance which is consistent with regional needs and rather complimentary to federal support.

It is known that small and medium size firms make up a large part of the Canadian economy and tend to contribute to the dynamism of the national economy. It is also known that although large firms can gain from export assistance programs, small and medium size firms stand to gain more given that they do not have the resources owned by large firms. In the present study we found that reactive and smaller exporters perceive greater difficulties than active and larger exporters in terms of trade barriers (too much red tape/bureaucracy and other trade barriers.) Our study also found that firms with less experience encounter more export barriers in the form of export support programs such as lack of government initiatives and insufficient support from agencies. If the results of this study hold true for the broader population of small and medium sized Canadian firms, export assistance programs should not differentiate between different firms except in the case of trade barriers for reactive and smaller firms and export assistance programs for firms with fewer years of export experience. Governments and other agencies need to reevaluate such programs and figure out how to tailor them more effectively around the needs of firms with less export experience and small size respectively.

The results presented in this paper provide further understanding to the shared managerial mental models of Canadian exporters. The present study provides limited support to the hypotheses stated in this paper and provides evidence that many of the results published in other studies are not valid in the context of Canadian exporters. One conclusion that can be drawn from the present study is that the mental models and perceptions of export barriers are not universal but are formulated in the context of a specific environment. Although stage of internationalization, years of export experience, firm size, and export success may play a role in shaping the mental models of exporters, other factors may be relevant too. Such factors may include trading partners, competitive conditions, the environment of the business, and background, experience, and education of key managers. Future studies into mental models of export barriers may have to take a contingency approach and include some of these variables as moderators. Such an approach may increase the explanatory power of empirical studies and enable us to better understand the factors that shape the managerial shared mental models of export barriers.

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Table 1
Factor Analysis of Perceived Export Barriers

| | Host market barriers | Export support programs | Trade barriers | Internal resource constraints |
|---|---|---|---|---|
| Slow payments by buyers | .776 | .095 | .161 | .215 |
| Payment defaults/bad debts | .800 | .190 | .121 | .218 |
| Unfavorable conditions overseas | .772 | -.037 | -.018 | -.122 |
| Lack of government initiatives | -.004 | .859 | .135 | .193 |
| Insufficient assistance from support agencies | .136 | .866 | .100 | -.080 |
| Too much red tape/bureaucracy | -.008 | .106 | .876 | .005 |
| Trade barriers | .245 | .122 | .765 | .055 |
| Transportation difficulties | -.090 | -.027 | .399 | .681 |
| Language barriers | .425 | -.199 | .021 | .540 |
| Lack of competitive products | .154 | .211 | -.172 | .753 |
| Eigenvalues | 2.84 | 1.64 | 1.23 | 1.60 |
| Percent of variance explained | 28.35 | 16.41 | 12.26 | 11.60 |
| Cumulative percent of variance explained | 28.35 | 44.76 | 57.02 | 68.62 |
| Cronbach alpha | .741 | .717 | .649 | .463 |

Kaiser-Meyer-Olin Measure of Sampling Efficiency = .63
Bartlett's Test of Sphericity = 297.7 Significance = 0.0

Table 2
One-way ANOVA of Perceived Export
Barriers Among Reactive and Active Exporters

| | Reactive (n= 91) | Active (n=23) | F-value | P-value |
|---|---|---|---|---|
| Host market barriers | -.02 | .08 | .19 | .67 |
| Export support programs | -.07 | -.03 | .02 | .88 |
| Trade barriers | .08 | -.45 | 5.36 | .02* |
| Internal resource constraints | .04 | -.09 | .27 | .60 |

* One –way ANOVA significant at .05 level

Table 3

One-way ANOVA of Perceived Export Barriers
Among Firms with Different Years of Export Experience

| | Years of export experience | | | |
|---|---|---|---|---|
| | 1-10 (n=70) | 11+ (n=53) | F-value | P-value |
| Host market barriers | .02 | -.02 | .06 | .81 |
| Export support programs | .15 | -.22 | 4.40 | .04* |
| Trade barriers | .08 | -.15 | 1.53 | .29 |
| Internal resource constraints | .04 | -.03 | .12 | .73 |

* One –way ANOVA significant at .05 level

Table 4
One-way ANOVA of Perceived Export
Barriers Among Firms of Different Size

| | Firm Size | | | |
|---|---|---|---|---|
| | 1-24 (n=70) | 25+ (n=54) | F-value | P-value |
| Host market barriers | .05 | -.09 | .55 | .46 |
| Export support programs | .07 | -.11 | .97 | .33 |
| Trade barriers | .18 | -.24 | 5.39 | .02* |
| Internal resource constraints | .05 | -.08 | .55 | .46 |

* One –way ANOVA significant at .05 level

Table 5
One-way ANOVA of Perceived Export Barriers Among
Firms with Different Percentage of Revenues from Exports

| | Percentage of revenues from exports | | | |
|---|---|---|---|---|
| | 1-50 (n=81) | 50+ (n=40) | F-value | P-value |
| Host market barriers | .02 | -.10 | .39 | .53 |
| Export support programs | .06 | -.09 | .58 | .45 |
| Trade barriers | .08 | -.18 | 1.84 | .18 |
| Internal resource constraints | .04 | -.09 | .49 | .49 |

* One –way ANOVA significant at .05 level