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**March 2012**

# JOURNAL OF EUROMARKETING

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## ***EDITORIAL***

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Most modern governments have a goal of increasing export activities of their firms. In order to achieve this goal, they provide a variety of services designed to enhance the export profile of these firms. Through the export support programs, companies can gather information about possible markets to enter and identify prospective customers. Indeed many countries now have commercial attaches posted to their foreign embassies in order to promote the economic interests of their home countries. Governments must ensure that exporters receive appropriate assistance that helps them in their efforts to become more effective exporters. Consequently, it is important for governments to study and assess the needs of exporters in order to provide the most beneficial assistance programs. The research by Karakaya and Yannopoulos showed that financial support was the most important to SMEs in Canada followed by export planning and market information. While providing financial support is not easy to do, some governments loan programs available. Export planning and market information are related to one another. One must have market information in order to plan exports. Again, government agencies can work with interested exporters by gathering market information and recommending markets to enter.

The ability to export effectively depends on a firm's ability to overcome barriers such as lack of foreign market information, export documentation, financing, finding agents/ distributors and so on. The most important barriers as perceived by the SMEs studied in this research were procedural barriers including too much red

tape / bureaucracy, and trade barriers. Reducing bureaucracy and educating businesses about export and trade procedures will increase exporting. Exporters can achieve better results by supplementing their own capabilities with government assistance programs. SMEs should take advantage of export assistance programs that help reduce export barriers to achieve greater export success. Consequently, public policy officials should focus more on the export assistance programs that studies show that are having the greatest impact on export barriers.

The study by Lee and Becker investigates the long-term equilibrium relationship and the Granger causality between ICT development and economic growth in the twenty two member countries of the European Union. Unlike the empirical findings of the previous studies, the Granger causality test in this study, with the exception of the Cyprus and Spain, does not support the hypothesis of ICT-led economic growth in the short-run for most of the European Union member countries. The study also revealed a one-way causal relationship from economic growth to ICT development for Luxembourg, Portugal and Sweden.

It is interesting to note that the study findings did differ among specific European Union member nations and the inconsistency in the results may be a reflection of the specific countries' stage of economic development. This is particularly true for information and communications technologies as, given the technological diversity within the European Union, each nation would be expected to vary in terms of both the weight of the ICT industry in the overall

economy and the size and openness of the economy. With this in mind it is natural to expect to find that an ICT-led growth hypothesis could also differ from one nation to another.

The findings additionally point out that while the European Union may find political, tariff and mobility factors in common just as they are not united in growth or economic stability, may be quite dissimilar in the manner in which technology effect impacts their unique economic growth. Supporting that the diverse relationships between ICT development and economic growth in different country settings several of the cited existing empirical studies noted that country-specific conditions influenced their results. These prior studies combined with the author's results stress that a careful nation specific empirical analysis is essential for a nation that may want to focus on the ICT industry as part of its national economic development strategy.

Certainly in the area of information and communications technology, and related fields such as semiconductor and materials science, the world is currently entering what is commonly referred to as the knowledge society, which is driven by information and intellectual products as the raw materials. In this context, the ability to transmit information over the information and communications technology infrastructure is a key resource for every nation's effective participation in the global information society and for addressing the economic developmental challenges. The information communications technology sector in many European nations could be an important enabler of sustainable growth in such a context. Its unique function as a key element of infrastructure for efficient industries and as a critical productivity enhancer is crucial for sustaining growth and laying the foundations for the economy that should be competitive in the long term.

It is stated that strong brand equity is of paramount importance in highly competitive financial services sector. Despite its importance, very little empirical research has been conducted on

the possible associations between customer relationships and brand equity in the context of the Chinese banking system. The study by Marinova et al. extends Aaker's (1991) framework by incorporating Berry's (2000) model of building service brand equity. It is maintained that brand equity is influenced by the combined effect of brand awareness and meaning in terms of customer response to the marketing of a brand.

Based on an extensive literature search and conducting exploratory research, a number of hypotheses were developed. It is hypothesized that directional relationships exist among the dimensions of brand equity, the constructs of customer relationships and overall brand equity. A consumer panel from a market research company in Beijing, the P.R.C., was chosen as the sampling frame. Respondents were allocated to their bank group preferences. The sample was constructed of 849 responses.

Survey results using structural equation modeling offer support the research hypotheses and reinforce the importance of the linkage between the two domains of branding and relationship marketing, which traditionally are apart. The study illustrates that customer relationships are important in creating brand equity in the context of the Chinese banking sector. The research findings provide bank managers with a comprehensive understanding of how customer relationships impact on the dimensions of brand equity, which will enable them in turn to design more effective marketing strategies to enhance the evaluation of brand equity. Applying marketing tactics, such as price reduction or promotion. To lure customers to deal with a bank, may not contribute to customers' sustained evaluation of the brand equity of a bank.

Globalization can be defined as "closer integration of countries and peoples of the world, which has been brought about by the enormous reduction of transportation and communication costs, and the breaking down of artificial barriers affecting the flows of goods, services, capi-

tal, knowledge, and people across borders" (Stiglitz, 2002).

The rapid growth of globalization suggested a need to understand how people perceive globalization and to assess the extent of such perception. Although some efforts have been made to reveal the differences of globalization comparison across different cultures, the biggest drawback of such comparisons is the lacking of the instrument of globalization perceptions, which is accurate, valid, and equivalent across different culture.

Building on the existing literature and field experiences, 26 instruments were developed by Meng et al. to measure the perceptions of globalization. Through an exploratory factor analysis on young generation in the US., nine items were deleted, and a four-dimension underlying structure emerged, which suggested that young people perceive the globalization from the Positive Effect of Globalization, the Negative Effect of Globalization, the Barriers Eliminated through Globalization, and Globalization Impact on Environment. In addition, a confirmatory factor analysis was conducted utilizing LISREL 8.80 program. The four dimensions were confirmed to be stable, and the 19 items measuring these four dimensions were tested to be valid scales.

Furthermore, utilizing the scales developed, this study compares and contrasts globalisation perceptions of young generations among three countries, the US, UK and India. Significant differences were found on all four dimensions of globalization perceptions among three cultures tested. More specifically, the Indians young people have significantly higher perceptions on the positive effect, negative effect, and impacts on environment dimensions than the Americans and the British. On the other hand, Americans

seem to have relatively similar views on the globalization with Britain. The significant difference was detected on the barriers elimination dimension only ( $p < .000$ ), which means that Americans have a stronger belief that globalization eliminates the barriers among countries.

This research has made theoretical contributions to the existing international business literature on globalization perceptions using new research methodologies. It also provides managerial insights for practitioners who deal with international business related issues. To this respect it would be important to find out if people in countries with a specific attitude towards globalisation would accept the entry of global companies and brands, or if due to high levels of resistance, a localisation of brands and companies would be required through the use of joint-ventures and alliances with local domestic companies.

Enjoy reading the journal!

Erdener Kaynak  
Editor-in-Chief

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## ARTICLES

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# Relationship between Export Support, Export Barriers, and Performance for Canadian SMEs

Fahri Karakaya  
Peter Yannopoulos

**ABSTRACT.** This paper examines the relationship between barriers to export and firm performance, as well as the indirect impact of export support programs on firm performance. Four major constructs of export barriers and export support functions are discussed. A structural equation model using the barriers and the export support functions as exogenous variables, and export performance as endogenous variable, show that the most important barrier in impacting export performance is the lack of firm competence, followed by fear of not receiving payment from foreign customers, procedural barriers, and lack of government support. Analyses also show that firm size impacts the perception of barriers to export and export performance. Furthermore, the export support activities construct has an indirect impact on export performance.

**KEYWORDS.** Barriers to Export, Export Assistance, Barriers to Entry, Export Performance, Export Procedures.

### INTRODUCTION

Every business that has decided to expand its operations into another country has to select a foreign market entry strategy (Erramilli, 1992; Maignan & Lukas, 1997). The entry strategy is the starting point of all international activities, and it is an important decision made by companies seeking to compete abroad (Kogut & Singh, 1988; Sarkar & Cavusgil, 1996). Exporting is a

mode of foreign entry and one of the most established forms of operating internationally (Dosoglu-Guner, 1999; Hansen et al., 1994). Firms looking for growth opportunities increasingly view exporting as an effective strategy (Mayes & Soteri, 1994). Firms gain from exporting through improving sales, market share, profits, and diversification opportunities. Academic researchers have studied exports extensively. One stream of research investigates the

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Fahri Karakaya, Ph.D, is Professor of Marketing, Carlton College of Business, Department of Marketing, University of Massachusetts Dartmouth, North Dartmouth, MA 02747, USA and Peter Yannopoulos, Ph.D is Associate Professor of Marketing, Department of Marketing, Faculty of Business, Brock University, St. Catharines, Ontario L2S 3A1, Canada

Address correspondence to Fahri Karakaya, Department of Marketing, University of Massachusetts Dartmouth, North Dartmouth, MA 02747, USA, E-mail: f1karakaya@umassd.edu

role of export support programs (Czinkota, 1982; Seringhaus, 1986, 1987; Seringhaus & Rosson, 1990; Crick & Czinkota, 1995; Yannopoulos, 2010) and the impact of export barriers on export performance (Barker & Kaynak, 1992; Bauerschmidt et al., 1985; Christensen et al., 1987; Katsikeas, 1996; Leonidou, 1995a, 1995b).

Most governments offer public programs designed to subsidize exporters' international marketing efforts, and to complement the internal resources and capabilities of small and medium sized manufacturers. These export support programs are designed to give exporting companies an edge over their foreign competitors, by providing them with the required expertise and knowledge that they may be lacking. According to Seringhaus and Botschen (1991), the specific goals of export promotion are: (1) to develop broad awareness and stimulate interest in exports; (2) to assist firms in preparation and planning of export activities; (3) to assist firms in acquiring needed expertise and know-how; (4) to support export efforts through organizational help and cost-sharing programs.

Export support programs are designed to encourage manufacturers to get involved in exporting as a means of increasing employment and capital formation, as well as expanding the tax base (Francis & Collins-Dodd, 2004; Gençturk & Kotabe, 2001). But the nature and scope of export assistance programs differ in different countries. For example, in the U.S., government export assistance programs are largely sponsored by individual states (Wilkinson & Brouthers, 2006). Canada's system, on the other hand, is primarily a government/public sector responsibility and, with the exception of certain programs, is non-strategic in terms of its overall approach (Seringhaus & Botschen, 1991). The program is developed after some consultation with the private sector, and is mainly a federal government assistance program. Provincial governments provide some export assistance, which is rather complementary to federal support and consistent with regional

needs. Private sector support of export activities, mainly through the Canadian Export Association, which is an interest group, is minimal compared with other countries.

There have been many studies on the impact of export assistance programs on export performance (Lages & Montgomery, 2005; Mahajar & Mohd, 2006; Silverman, Castaldi & Sengupta, 2001; Toften & Rutad, 2005; Wilkinson & Brouthers, 2006). However, we still do not know how such public programs affect export performance, and which of these programs are truly useful to exporters. For example, Crick (1992), as well as Crick and Czinkota (1995), found that the U.S. and U.K. governments were focusing on the incorrect needs of exporters. These studies discovered that exporters do not necessarily request the assistance that will help exports, indicating that government resources are not always used efficiently. This suggests that managers of SMEs may need more advice in navigating export markets and direction as to what services they may need (Crick 1997).

Also, research into exporting has been mostly empirical and descriptive, lacking solid theoretical foundations (Gemunden, 1991). We draw on the resource-based view of the firm to provide the theoretical foundations between the market and competitive difficulties faced by small exporting firms, in their involvement in foreign markets and their efforts to overcome these difficulties (Barney, 1991). The resource-based view assumes that firms are collections of unique bundles of resources that help them compete effectively in their chosen markets. SMEs frequently lack necessary resources, knowledge, and capabilities about foreign markets (Wolff & Pett, 2000). Export assistance programs offered to SMEs serve as resources designed to complement existing organizational resources and help them expand or compete more effectively in foreign markets.

Despite the many benefits of exporting, firms face export barriers that inhibit their efforts (Dosoglu-Guner, 1999). Export barriers often foil the foreign activities of the exporting

firms, leading to considerable financial losses (Leonidou, 1995b). Studies show that companies are generally reluctant to get involved in international business (Morgan, 1997). These decisions are affected by the degree of export barriers perceived by management (Leonidou, 1995b; Welch & Wiedersheim-Paul, 1977). Therefore, understanding the impact of export barriers on export performance is crucial for managers and public policy makers, in order to reduce their negative impact on export activities. If export barriers inhibiting export performance can be identified, public policy officials and export assistance agencies could better target their efforts to alleviate such hindrances (McAuley, 1993; Seringhaus & Rosson, 1990). Export assistance programs are important means of helping domestic firms in their export activities and overcoming export barriers (Crick & Czinkota, 1995).

Barriers to export for manufacturing firms have been the focus of a wide range of research interest since the 1980s. A handful of empirical studies have investigated how these barriers impact export performance (Dosoglu-Guner, 1999; Leonidou, 1995a; 2000). Export support functions provided by government and other agencies are also likely to impact export performance and lower the export barriers. Literature review provides mixed results on the impact of export assistance programs on export performance.

The purpose of this study is to examine the impact of export assistance programs on barriers to export, and how export assistance programs and export barriers influence performance of small and medium sized (SMEs) Canadian exporting firms. While the existing body of research focuses on the impact of export assistance programs and export barriers separately, our study examines the impact of these factors together. Specifically, we investigate the impact of export barriers on export performance, and the indirect impact of export assistance programs on export performance. We believe that this information will enable governments to as-

sess the effectiveness of their export support programs, and whether to retain, modify, or drop some of these programs. We first review the relevant literature on export assistance programs and export barriers. We then analyze the results and draw relevant managerial and theoretical conclusions. At a time when exporting activity and the role of export barriers is so vital to firms and economies, we believe that our study contributes to this important area, by providing evidence about the impact of export assistance programs and export barriers on export performance.

## LITERATURE REVIEW

### *Export Support Programs*

The essence of the resource-based view of the firm is that the firm uses resources and capabilities as the basic building block to obtain a competitive advantage (Wernerfelt, 1984; Barney, 1991; Teece, Pisano, & Shuen, 1997). Export competitive advantage can be defined as a firm's competitive strength, relative to competitors in export markets (Moen, 1999; Moini, 1997). Exporters with a high level of competitive advantage typically possess superior firm resources and capabilities (Piercy, Kaleka, & Katsikeas, 1998).

Taking a resource-based perspective, SMEs commonly lack the resources, information, and knowledge about foreign markets (Acs et al., 1997; Alvarez, 2004; Wolff & Pett, 2000). For example, one of the greatest challenges for small exporters is the identification of overseas distributors and agents (Aaby & Slater, 1989). Consequently, SMEs tend to look at exports negatively (Burpitt & Rondinelli, 2000) and avoid getting involved in foreign markets (Acs et al., 1997). Although large firms can gain from export assistance programs, SMEs stand to gain even more given that they do not have the resources owned by large firms.

Export assistance programs include providing foreign market information, finding agents, language assistance, translation, counseling,



sales leads, and other resources that ease the market entry of businesses into foreign markets by way of exporting. They are mainly public measures designed to assist firms' export efforts and are intended to support export initiatives (Gençtürk & Kotabe, 2001). These support programs provide exporting firms with the knowledge and resources needed for successful involvement in international markets. Also, export support programs are designed to give exporting companies an edge over their foreign competitors by providing them with the required expertise and the knowledge that they lack. Therefore, the overall goal of the export support programs is to assist firms' export efforts.

Export assistance programs are distinguished into informational and operational support programs (Diamantopoulos et al., 1993; Seringhaus & Rosson, 1990). Information support is important because success in the competitive global environment depends on better and more effective use of information. Informational support includes newsletters and export marketing seminars, export market information, and market research about foreign markets. Operational support includes provisions of contacts and regulatory assistance, trade missions, financial support, export logistics training, marketing assistance, and foreign buyer visits (Diamantopoulos et al., 1993; Seringhaus & Rosson, 1990).

Early research has shown a positive relationship between export assistance programs and firm performance (Cavusgil & Jacob, 1987; Pointon, 1978). Among U.S. export assistance programs, it was found that every \$1 in state export assistance expenditures resulted in approximately \$432 increase in exports (Coughlin & Cartwright, 1987). Experiential activities such as trade missions and trade shows increase export performance, because they allow managers to rapidly acquire information about export markets and the exporting process (Denis & Depelteau, 1985; Reid, 1985). The studies that focused on trade shows found them to be an effective means of obtaining knowledge about

foreign markets (Ramaswami & Yang, 1990). Other benefits of trade shows and trade missions include product awareness and immediate sales (Gopalakrishna et al., 1995; Wilkinson & Brouthers, 2000a,b). Other researchers found that export support programs contributed to export success, but the extent of that contribution was dependent on the type of export performance being examined (Gençtürk & Kotabe, 2001) or the level of export involvement (Francis & Collins-Dodd, 2004). Gençtürk and Kotabe (2001) found that export support programs enhanced the competitive position of firms but did not contribute to firms' sales. Also, committed exporters were in the best position to take advantage of the cost-saving benefits that can be obtained through export support programs (Gençtürk & Kotabe, 2001). Francis and Collins-Dodd (2004) found that sporadic and active exporters had the most to gain from export assistance programs, while experienced exporters gained very little in the short term. Yet other researchers found that export assistance programs are not so helpful (Crick, 1997; Mahajar & Yunus, 2000; Moini, 1998).

Perceptions of usefulness of export assistance programs have been used as proxies for performance. But some researchers claim perceptions of usefulness of export assistance programs cannot be viewed as a measure of the impact of these programs (Diamantopoulos et al., 1993). Managers may rate these programs highly but they may have little relationship with export performance. For example, Crick and Czinkota (1995) found significant differences between the programs exporters were requesting and the types of programs they actually needed to compete more effectively in the foreign markets. However, it is well known that perceptions and mental models influence the decisions of managers (Karakaya & Yannopoulos, 2010). It is important to note that large firms usually export regardless of the assistance they receive from the public or private sectors (Crick, 1997). Consequently, such assistance programs could be more efficiently utilized if offered to small

and medium-sized enterprises that need to be encouraged to export. SMEs make up a large part of an economy and contribute to the dynamism of the national economy. The ability of SMEs to compete successfully in international markets depends on the resources they employ in the exploitation of foreign opportunities (Bloodgood, Sapienza, & Almeida, 1996).

### ***Exports Barriers***

Export barriers refer to those constraints that impede a firm's efforts to compete successfully in international markets. Export barriers can be distinguished into internal export barriers involving organizational resources and capabilities, and external export barriers involving barriers pertaining to the home and host countries in which the firm is doing business (Leonidou, 1995a, 2000; Yang et al., 1992). Leonidou (1995b, 2000) classified internal export barriers into functional, informational, and marketing, while external barriers were classified into procedural, governmental, task, and environmental barriers. Similarly, Seringhaus and Rosson (1990) classified export barriers according to operational/resource-based, motivational, informational, and knowledge based barriers. For many firms, the most important external factors that cause barriers to entry and export into international markets consist of tariff and non tariff barriers, foreign exchange rate fluctuations, competition, government policy, foreign business practice, and different product and consumer standards in foreign markets (Barker & Kaynak 1992; da Silva & da Rocha, 2001; Leonidou, 1995a; Dichtl et al., 1986; Kedia & Chokar, 1986; Tseng & Yu, 1991; Yang et al., 1992).

Other researchers have grouped export barriers into four categories: lack of export knowledge, internal resource constraints, procedural barriers, and exogenous variables that hinder a firm's ability to undertake export activities (Ramaswani & Yang, 1990). Export knowledge includes planning and knowledge about export opportunities in the foreign market (Czinkota et

al., 2009; Suarez-Ortega, 2003). Initiating export activity requires the existence of a certain amount of resources, making resource constraints another barrier to export activity, especially for small or medium-sized firms (Bilkey, 1978). Internal resource constraints include financial resources, personnel, and production capacity. Procedural barriers include red tape and documentation (Keng & Juan, 1989), input tariffs (Barker & Kaynak, 1992), and transportation and distribution difficulties in foreign markets (Barker & Kaynak, 1992; Kedia & Chokar, 1986). The barriers just mentioned are related to "operational" barriers and include receiving payments from foreign buyers, clearing customs, getting representation in international markets (Kedia & Chokar, 1986; Yaprak, 1985), and managing international channels of distribution (Gilliland & Bello, 1997). Exogenous factors include competition in the foreign market (Kedia & Chokar, 1986), and instability in the foreign market (Kaynak et al., 1987). A comprehensive list of major export barriers and the studies involved is presented in the following table.

Cavusgil and Naor (1987) indicate that financial and personnel resources are crucial factors in overcoming barriers to entry in international markets. Inadequate resources, financial and non-financial, decrease a firm's involvement in international markets (Cavusgil & Zou, 1994). Consistent with this study, Pinho and Martins (2010) also indicate that lack of financial assistance (governmental and financial institutions), and lack of qualified human resources, as the main *export barriers*. Czinkota et al. (2009) state that barriers in international markets may include discriminatory legal requirements, political favoritism, cartel agreements, social and cultural biases, unfriendly distribution channels, and refusal to cooperate by both business and foreign governments. A recent study determined that export barriers include four dimensions: knowledge, resources, procedure, and exogenous barriers (Arteaga-

Table 1. Literature Review of Export Barriers

Export Barriers	Source	Premise
Financial resources	Suarez-Ortega, 2003; Cavusgil & Zou, 1994	Lack of financial resources is related to firm performance. Firms lacking financial resources have difficulty in exporting.
Financial assistance	Pinho & Martins, 2010	Lack of financial assistance from government and financial institutions is a major barrier to export.
Human resources	Barker & Kaynak, 1992; Cavusgil & Zou, 1994; Pinho & Martins, 2010; Cavusgil & Nevin, 1981; Yaprak, 1985; Suarez-Ortega, 2003	Lack of qualified human personnel with exporting knowledge and skills is a major export barrier.
Discriminatory legal requirements	Czinkota et al., 2009	Some countries discriminate against firms by imposing legal requirements that serve as barrier to entry.
Political environment / favoritism	Czinkota et al., 2009; Karakaya, 1993	Unstable political conditions in some countries discourage foreign market entrants and deter market entry.
Cartel agreements	Czinkota et al., 2009	Cartel agreements serve as barriers to market entry.
Social and cultural barriers	Czinkota et al., 2009; Karakaya, 1993; Kahler & Cramer, 1977	Cultural difference between a market entrant's country and the market to enter poses a major barrier, unless the market entrant acquires knowledge of the market to enter, and adapts marketing strategy accordingly.
Distribution channels	Czinkota et al., 2009; Gilliland & Bello, 1997; Karakaya, 1993	Some distribution channels in foreign markets prefer to market the products of local firms due to nationalism or other reasons.
Lack of knowledge (export procedures / markets)	Suarez-Ortega, 2003; Arteaga-Ortiz & Fernandez-Ortiz, 2010	Lack of knowledge of export procedures and the required red tape discourage firms from exporting.
Tariff barriers	Barker & Kaynak, 1992; da Silva & da Rocha, 2001; Leonidou, 1995a; Dichtl, Köglmayr & Müller, 1986; Kedia & Chokar, 1986; Tseng & Yu, 1991; Yang et al., 1992	Some countries impose high tariffs to protect their local economies. This situation has been proven to be an effective barrier to market entry.
Foreign exchange rate fluctuations	Barker & Kaynak, 1992; da Silva & da Rocha, 2001; Leonidou, 1995a; Dichtl, Köglmayr, & Müller, 1986; Karakaya, 1993; Kedia & Chokar, 1986; Tseng & Yu, 1991; Yang et al., 1992	Foreign exchange rate volatility in some countries, especially in developing nations, has caused many firms to stay away from some potentially lucrative markets. For example, devaluation of the dollar meant lower profits for many multinational corporations.
Competition	Barker & Kaynak, 1992; da Silva & da Rocha, 2001; Karakaya, 1993; Leonidou, 1995a; Dichtl, Köglmayr, & Müller, 1986; Kedia & Chokar, 1986; Tseng & Yu, 1991; Yang et al., 1992	As in local markets, competition in global markets is a barrier to market entry. Competition from countries with lower labor costs, and the presence of strong incumbent firms, cause firms to seek other alternatives to expand their markets.
Foreign government policy	Barker & Kaynak, 1992; da Silva & da Rocha, 2001; Keegan, 2002; Kogan, 2003; Leonidou, 1995a; Dichtl, Köglmayr, & Müller, 1986; Kedia & Chokar, 1986; Tseng & Yu, 1991; Yang et al., 1992	Foreign government policies on product standards such as ISO certification, and other operational procedures impact market entry decisions.
Foreign business practice	Barker & Kaynak, 1992; da Silva & da Rocha, 2001; Leonidou, 1995a; Dichtl, Köglmayr, & Müller, 1986; Kedia & Chokar, 1986; Tseng & Yu, 1991; Yang et al., 1992	Business practices utilized in foreign markets are often different from the practices employed by market entrants. Inability to adapt the practices of the local firms deters market entry.

Different product and consumer standards in foreign markets	Barker & Kaynak, 1992; da Silva & da Rocha, 2001; Leonidou, 1995a; Dichtl, Köglmayr, & Müller, 1986; Kedia & Chokar, 1986; Tseng & Yu, 1991; Yang et al., 1992	Lack of product adaptation when entering into foreign markets has been a problem for many firms (e.g., product size, taste, packaging, etc.).
Fear of not receiving payments from foreign buyers	Barker & Kaynak, 1992; Karakaya, 1993; Kedia & Chokar, 1986; Yaprak, 1985	Receiving payments for delivered products to foreign customers has been a problem for some firms. This has discouraged firms from exporting to especially new international markets.
Export procedures and red tape	Barker & Kaynak, 1992; Leonidou, 1995b; 2000; Arteaga-Ortiz & Fernandez-Ortiz, 2010	Procedure barriers include obstacles arising from performance export activities. The complexity of documentation or the bureaucracy associated with export operations, imposed either by the export country or the market being exported to, both serve as an important barrier to entry.
Transportation and shipments	Barker & Kaynak, 1992; Kedia & Chokar, 1986; Yaprak, 1985	Difficulty experienced in transportation of products to foreign markets has been a major problem for many firms. The major problem appears to be lack of transportation facilities and delivery time.
Lack of managerial commitment	Barker & Kaynak, 1992; Cavusgil & Nevin, 1981; Yaprak, 1985	Lack of managerial commitment in exporting activities has been found to negatively correlate with firm performance.
Language barriers	Barker & Kaynak, 1992; Karakaya & Stahl, 1991; Karakaya, 1993; Kau & Tan, 1989	Inability to communicate effectively with foreign customers has been documented as a major barrier to entry in international markets.
Customer switching cost	Karakaya, 1989; 1993	Cost of switching from one supplier /vendor to another has slowed down or hindered the entry of firms into new markets. The most important switching costs include time and sunk cost for potential customers.
Foreign government policy	Huang, 2007; Karakaya, 1993	Governments restrict activities of exporters through government policies, such as tariffs and quotas, as well as non-trade barriers, such as bureaucracy and legislation.
Product adaptation	Buckley & Mathew, 1980; Cavusgil et al., 1993; Karakaya, 1993; Moini, 1997	Having to adapt product to local markets is seen as a barrier to trade by some exporters.
Nationalism	Karakaya, 1993; Riley, 1992	Nationalism, in terms of local customers preferring locally produced goods and services has been identified as an export barrier.
Changes required in promotional activities	Cavusgil et al., 1993; Karakaya, 1993	Promotional approach should also be adapted to enhance the viability of the communication strategy in the export market.
Economic environment	Karakaya, 1993; Neupert et al., 2006	SME exporters in transitional economies encountered export problems related to product quality acceptance and logistics management. In comparison, SME exporters in developed economies faced issues such as country differences, general business risk, and logistics.
Corruption	Karakaya, 1993; Okpara, 2009	
Cost advantages held by local companies	Karakaya, 1993	The author found that local companies held a cost advantage over exporters.
Firm size	Bonnaccorsi, 1992; Ifju & Bush 1993; Keng & Jiuan, 1989; Leonidou, 1995a; Hirsh & Lev, 1973; Cavusgil, 1980	These studies found a negative relationship between size and exporting activities, indicating that size is a significant barrier to export. Non-exporting firms with no interest in becoming exporters considered themselves too small to export and were satisfied with the home market.
Lack of information about foreign markets	Ifju & Bush, 1993	For non-exporting firms with a desire to export, lack of information concerning international markets was the major barrier.

Ortiz & Fernandez-Ortiz, 2010).

Barker and Kaynak (1992) list the most important export barriers as follows: too much red tape, trade barriers, transportation difficulties, lack of trained personnel, lack of export incentive, lack of coordinated assistance, unfavorable conditions of international markets, slow payments by buyers, lack of competitive products, payment defaults, and language barriers. Similarly, Karakaya (1993) identified 14 different export barriers in the literature including cultural barriers, language, access to distribution channels, customer switching costs, government policy, product adaptation, stability of currency exchange rate, expected local and global competition, changes required in promotional activities, nationalism, political environment, economic environment, corruption, and cost advantages held by local companies. Adding to the list of export barriers, a recent study conducted by Stoian and Rialp-Criado (2010) indicated that managerial characteristics might act as export barriers and impact export performance.

Cultural barrier is a common barrier to entry in international markets and is regularly cited in textbooks and journal articles. According to Kahler and Cramer (1977), culture affects all areas of marketing such as product design, communication, the role of family members in the purchasing process, relationship with distributors, and physical distribution. In addition, language as a part of culture has been pointed out as an important barrier for exporters (Barker & Kaynak, 1992; Karakaya & Stahl, 1991; Karakaya, 1993; Kau & Tan, 1989). The language barrier affects exporting from a variety of perspectives such as branding, packaging, instructions for installation and using products, warranty information, communication with distribution channel members, and promotion (Karakaya & Stahl, 1991).

Firm size plays an important role in the perception of export barriers. Smaller firms usually lack resources and may face greater export barriers when compared to larger firms. Previous studies on this issue have produced inconsistent

findings. While some studies found a positive relationship between firm size and the number of exporting firms (Keng & Juan, 1989; Leonidou, 1995a), others yielded opposite findings (Calof, 1994). Very small companies do not tend to export; there is a negative correlation between firm size and desire to export for small manufacturers, but after a certain size this correlation dwindles (Hirsh & Lev, 1973; Cavusgil, 1980). Similarly, a study conducted by Bonnacorsi (1992), indicate that firm size does not have significant impact on export intensity of individual firms. A survey of 242 small and medium sized manufacturing firms in Wisconsin showed that there were three barriers that were perceived to be both important and difficult to overcome (Moini, 1997). These were adapting products for foreign markets, knowing export procedures, and advertising in foreign markets. However, Moini (1997) state that these barriers could be considered unsubstantial, existing only in the minds of small non-exporters who have not attempted to export yet. Another study conducted in hardwood lumber industry in the eastern U.S. by Ifju and Bush (1993) examined perceived barriers to export, and determined that non-exporting firms with no interest in becoming exporters considered themselves too small to export and were satisfied with the home market. For non-exporting firms with desire to export, lack of information concerning international markets was the major barrier.

Foreign government policy has become one of the most important barriers affecting the way foreign companies enter into international markets (Keegan, 2002). Even producers of products in high demand may be excluded from markets by discouraging policies of foreign governments. Kogan (2003) indicates that governments may establish a whole host of export barriers, including tariffs, quota, boycotts, monetary barriers, and non-tariff barriers, in order to encourage development of domestic industry and protect the existing industry. Other governmental factors related to barriers to entry into international markets consist of discriminatory

government procurement policies; restrictive customs procedures; selective monetary controls and discriminatory exchange rate policies; restrictive administrative and technical regulations such as antidumping regulations, size regulations; and safety and health regulations (Keegan, 2002).

Non-exporters' perceive the increasing competitive pressures in the world markets as the most severe impediment to export (Leonidou, 1995a). The attractiveness of a market usually increases the number of competing firms. Thus, competition tends to be strong in these markets, creating a barrier for new market entrants both domestically and internationally. Intensive competition in the global markets usually forces firms to reduce prices and settle for lower profit margins, which then cause many to remain in their domestic markets with higher profit margins.

As the literature review shows, there have been a variety of studies on export barriers and export performance. However, there is a lack of research on the impact of export support activities on export barriers and export performance. Therefore, the goal of this study is to fill this void by studying the relationship between export barriers and the export support activities, and their impact on export performance. The results will be useful for lowering export barriers and improving export support activities if they indeed have an impact on export performance.

## METHODOLOGY

### *Data Collection*

A variety of firms based in the Niagara Region of Canada were mailed a questionnaire that contained questions related to their exporting activities, export barriers they faced, and export support they received. These firms were on the e-mail list of the Centre of Entrepreneurship of the Faculty of Business of a local Canadian University.

The purpose of the study was explained in an accompanying cover letter and encouraged recipients of the letter to participate in the survey. To further 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 to the members of the list. Respondents who hadn't responded after a period of two weeks were reminded by telephone and were requested to complete the questionnaire. The number of participants who completed the questionnaires was 137 for a response rate of 30.6 percent. The response rate is roughly equal to response rates of similar studies reported in the export literature.

The size of the responding companies ranged from 1 to 500 employees, with a mean of 43 employees. The percent of sales accounted for by trade outside of Canada ranged from 0 to 100 percent, with a mean of 37 percent. Given its proximity to Canada, it is no surprise that the U.S.A. ranked first in terms of importance to exporting business firms. Mexico and Western Europe ranked second and third most important trading partners. The length of time that the respondent had engaged in exporting ranged from 0 to 85 years, with a mean of 14 years.

Canadian firms are heavily involved in exports - about two-thirds of Canadian companies that are doing business abroad are involved in exports (Keegan & Seringhaus, 1996). In lieu of the importance of exports to Canadian firms, the Canadian government has initiated an export support program, designed to facilitate the export activities of Canadian based firms (Naidu & Rao, 1993). Export assistance programs are provided by the government or the private sector, or in some instances, by both the government and the private sector (Gençturk & Kotabe, 2001). The Canadian program, however, is primarily a government responsibility (Seringhaus & Botschen, 1991). The program is developed after some consultation with the private

sector and it is mainly a federal government assistance program. Provincial governments provide some export assistance, which is rather complementary to federal support and consistent with regional needs.

Non-response bias was assessed following the procedures developed by Armstrong and Overton (1977). The early respondents were defined as the first 1/3 of all respondents in the data set, whereas the late respondents were the last 1/3 of all respondents. The early and late respondents were compared on their responses. T-tests showed that none of the export barriers or the export support activities in the survey differed in magnitude between early and late respondents at  $p=0.05$  significance level.

### ***Measures, Reliability, and Validity***

Using the literature on export barriers, 11 potential barriers that were applicable for the selected sample were identified. The measurement of the barriers was adapted from the approaches used by Barker and Kaynak (1992) and Karakaya and Harcar (1999). A four point Likert scale ranging from “strongly agree” to “disagree” was used. The respondents were asked to indicate their agreement or disagreement with the 11 export barriers. Similarly, the usefulness of the export support services was captured by 14 export support activities. In order to ensure content validity of the questionnaire, the survey was pre-tested with five potential respondents. The wording of a few questions was slightly modified based on feedback. The descriptive statistics for the barriers and the export support activities used in the study are presented below in Table 2. The export performance factor was measured using the following four variables: (1) overall success of the exporting efforts (ranging from very successful to very unsuccessful); (2) percentage of last year’s sales as accounted for by trade outside of Canada; (3) frequency of exporting (ranging from occasional orders to having a well-developed exporting strategy); (4) and number of different countries exported to on a regular basis.

We followed the procedures outlined by Anderson and Gerbing (1988) by assessing the reliability and unidimensionality of each construct. We conducted two confirmatory factor analyses (CFAs) using SPSS Amos. The first CFA included the export barriers, and the second CFA included the export support activities utilized by the responding firms. All of the items loaded on their respective constructs were statistically significant. The results of the CFA for all variables and the measurement properties are reported below in Table 3. We also checked the measurement properties of the variables by comparing the baseline model with six alternate models for the export barriers. The comparison of these models with the baseline model (presented below in Table 4) reveals the following goodness of fit statistics:  $\chi^2 = 41.78$  with d.f. = 29;  $\chi^2 / \text{d.f.} = 1.44$ ; GFI = 0.94; CFI = 0.96; RMSEA = 0.057. Overall, these results suggest that the four-factor model renders evidence of construct distinctiveness for the following: fear of not receiving payment from international customers ( $\alpha = 0.76$ ), lack of government support ( $\alpha = 0.69$ ), procedural barriers ( $\alpha = 0.69$ ), and lack of firm competence ( $\alpha = 0.52$ ). The second confirmatory analysis on export support activities consisted of 14 export support related variables ( $\alpha = 0.97$ ), and had the following goodness of fit statistics:  $\chi^2 = 128.29$  with d.f. = 73;  $\chi^2 / \text{d.f.} = 1.76$ ; GFI = 0.89; CFI = 0.98; RMSEA = 0.075.

We further tested for discriminant validity by following the procedures outlined by Fornell and Larcker (1981) by comparing the square roots of the average variance extracted (AVE) estimates of the measures with the correlation between constructs (see Table 5 below). The square roots of the AVE’s for the export barriers (0.65, 0.82, 0.79, and 0.55), and export support (0.85) are greater than all of the corresponding correlations, indicating adequate discriminant validity. The AVE’s range from 0.73 to 0.28. One of the AVE’s is below the recommended threshold of 0.50 as suggested by (Fornell & Larcker, 1981).

Table 2. Descriptive Statistics and Reliabilities

VARIABLES	Mean	Std. dev.
<b>FEAR OF NOT RECEIVING PAYMENT (PYMT)</b>		
$\alpha = 0.76$		
Payment defaults/bad debts	1.78	0.93
Slow payment by buyers	1.90	0.99
Unfavorable conditions overseas – political/economic	2.11	0.80
<b>LACK OF GOVERNMENT SUPPORT (GS)</b>		
$\alpha = 0.75$		
Insufficient support from agencies	2.03	0.82
Lack of government initiatives	2.11	0.93
<b>PROCEDURAL BARRIERS (PB)</b>		
$\alpha = 0.69$		
Too much red tape/bureaucracy	2.44	1.10
Trade barriers	2.25	1.08
<b>LACK OF FIRM COMPETENCE (LFC)</b>		
$\alpha = 0.52$		
Transportation difficulties	1.79	0.93
Language barriers	1.72	0.99
Lack of trained personnel to manage export activities	1.81	0.96
<b>EXPORT SUPPORT</b>		
$\alpha = 0.97$		
Export planning	2.95	2.33
Language training	2.39	1.35
Sales material	2.50	1.29
Cultural training	2.60	1.25
Export procedures	2.56	1.26
Logistics	2.56	1.29
Translation services	2.57	1.23
Product standards	2.68	1.23
Finding agent	2.69	1.17
Arranging exhibitions	2.56	1.17
Financial support	3.61	2.35
Export documentation	2.70	1.17
Market information	2.82	1.08
Identifying exhibitions	2.58	1.19



Table 3. Results of Confirmatory Factor Analysis and Measurement Properties

Factors/Variables	Alpha	Standardized Loadings ( $\lambda_{yi}$ )	Reliability ( $\lambda^2_{yi}$ )	Variance ( $\text{Var}(\epsilon_i)$ )	Variance-Extracted Estimate = $\Sigma(\lambda^2_{yi}) / (\lambda^2_{yi} + \text{Var}(\epsilon_i))$
<b>FEAR OF NOT RECEIVING PAYMENT</b>	.76				.55
Payment defaults/bad debts		.87	.76	.14	
Slow payment by buyers		.82	.67	.33	
Unfavorable conditions overseas – political/economic		.48	.23	.77	
<b>LACK OF GOVERNMENT SUPPORT</b>	.75				.61
Insufficient support from agencies		.74	.55	.45	
Lack of government initiatives		.82	.67	.33	
<b>PROCEDURAL BARRIERS</b>	.69				.55
Too much red tape/bureaucracy		.65	.42	.58	
Trade barriers		.82	.67	.33	
<b>LACK OF FIRM COMPETENCE</b>	.52				.28
Transportation difficulties		.47	.22	.78	
Language barriers		.51	.26	.74	
Lack of trained personnel to manage export activities		.60	.36	.64	
<b>EXPORT SUPPORT USEFULNESS</b>	.97				.73
Export planning		.92	0.85	.15	
Language training		.91	0.83	.17	
Sales material		.90	0.81	.19	
Cultural training		.90	0.81	.19	
Export procedures		.88	0.77	.23	
Logistics		.89	0.79	.21	
Translation services		.88	0.77	.23	
Product standards		.86	0.74	.24	
Finding agent		.82	0.67	.33	
Arranging exhibitions		.81	0.66	.34	
Financial support		.81	0.66	.34	
Export documentation		.80	0.64	.36	
Market information		.77	0.59	.41	
Identifying exhibitions		.75	0.56	.44	

Table 4. Comparison of Measurement Models

Model	Factors*	$\chi^2$	d.f.	$\Delta\chi^2$	RMSEA	CFI	IFI	GFI
Null		347.50	45					
Baseline Model	Four factors.	41.78	29		.057	.96	.96	.94
Model 1	Three factor model: PYMT and PB were combined into one factor, GS into second factor, and LFC into third factor.	88.00	32	46.22**	.114	.81	.82	.89
Model 2	Three factor model: PYMT and GS were combined into one factor, PB into second factor, and LFC into third factor.	104.46	32	62.68**	.129	.76	.77	.87
Model 3	Three factor model: PYMT and LFC were combined into one factor, PB into second factor, and GS into third factor.	62.77	32	20.99*	.084	.90	.90	.92
Model 4	Three factor model: PB and GS were combined into one factor, PYMT into second factor, and LFC into third factor.	96.56	32	54.78**	.122	.79	.80	.88
Model 5	Three factor model: PB and LFC were combined into one factor, PYMT into second factor, and GS into third factor,	61.90	32	20.12*	.083	.90	.91	.92
Model 6	Three factor model: GS and LFC were combined into one factor, PB into second factor, PYMT into third factor.	75.19	32	33.41**	.100	.86	.86	.90

\*Factors are defined in Table 1: \*\*  $p < .01$ ; \*  $p < .05$

Although it is desirable to have constructs with AVE's greater than or equal to 0.50, it is common for the AVE's to be below 0.50 even when the reliabilities are acceptable (Hatcher, 1994). The AVE for the lack of firm competence barrier was .28. Although this AVE could

be improved by deleting the transportation barrier, we decided to keep it in the construct for theoretical reasons (see Barker & Kaynak, 1992; Kedia & Chokar, 1986; Yaprak, 1985). Ability to transport products to foreign markets is part of firm competence.

Table 5. Discriminant Validity Test and Zero-order Correlations

Variables	AVE Square Root	1	2	3	4	5
1. Fear of not receiving payment	0.65	1				
2. Lack of government support	0.82	0.16	1			
3. Procedural barriers	0.79	0.26**	0.23**	1		
4. Lack firm competence	0.55	0.32**	0.18*	0.30**	1	
5. Export support	0.85	-0.08	-0.01	-0.10	-0.05	1

\*\*  $p < 0.01$ ; \*  $p < 0.05$

## RESULTS

Figure 1 shows the relationships among the export support construct, the export barriers, and export performance. Of the four barrier constructs, two were statistically significant at  $p = .04$  while two were marginally significant at  $p = .06$  and  $p = .10$ . All four barriers have negative impact on export performance. Fear of not receiving payment ( $\beta = -.16$  and  $\lambda = -.22$ ;  $p = .04$ ), procedural barriers ( $\beta = -.20$  and  $\lambda = -.19$ ;  $p = .06$ ), lack of firm competence ( $\beta = -.93$  and  $\lambda = -.38$ ;  $p = .04$ ), and lack of government support ( $\beta = -.12$  and  $\lambda = -.16$ ;  $p = .10$ ) negatively impact export performance. As these four barriers increase in magnitude, the export performance decreases. Interestingly, the export support construct has no direct impact on export performance, but it has a significant indirect impact. The total indirect effect, standardized regression weight, is 0.0548. Bartol (1983) and Pedhazur (1982) indicate that an indirect effect higher than 0.05 can be considered meaningful. The indirect effect calculated in this study is through the export barriers. The indirect effect through lack of firm competence is .027, through procedural barriers is .011, through lack of government support is .011, and through fear of not receiving payments is .004. The total indirect effect is calculated by multiplying the standardized regression weights  $[(-.07 \times -.38) + (-.06 \times -.21) + (-.07 \times -.16) + (-.02 \times -.22)] = 0.0548$ . It appears that export support activities provided by the Canadian government mainly lowers the lack of firm competence barrier and influences export performance.

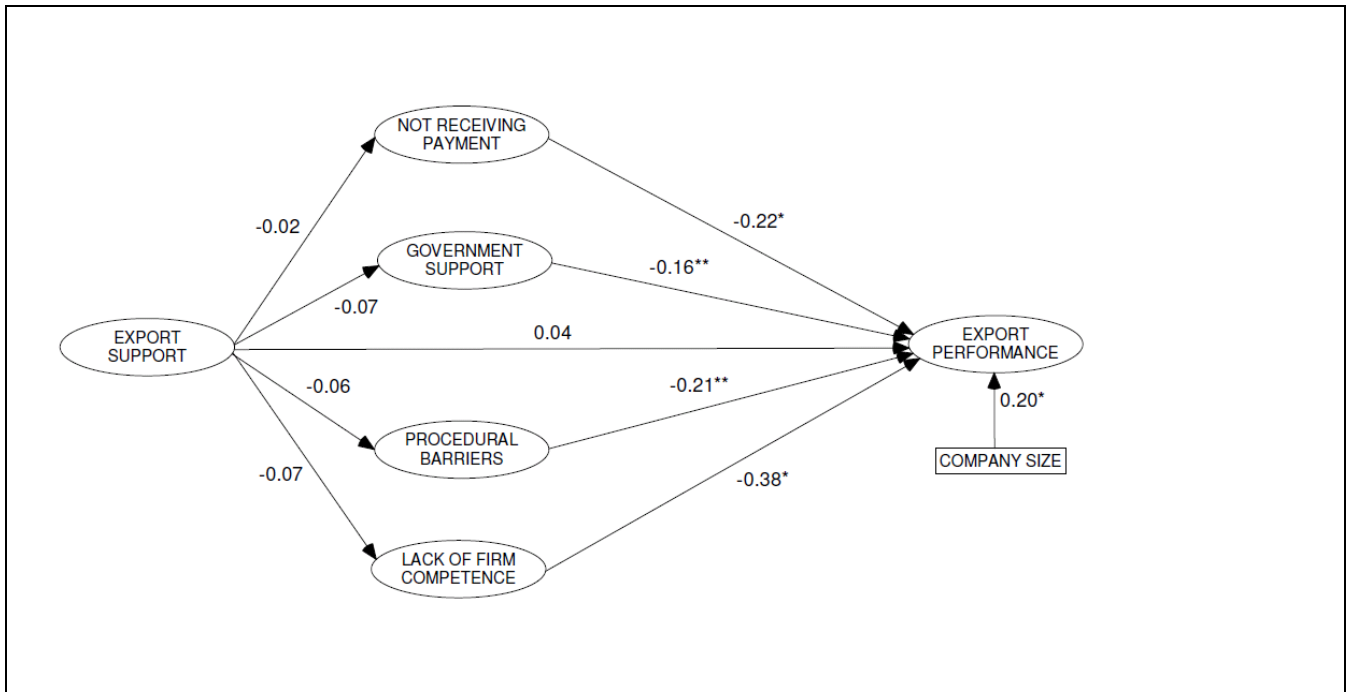
In testing the impact of barriers and export support on export performance, company size (number of employees) was used as a control variable. The company size has a positive impact on export performance ( $\lambda = .20$ ;  $p = .04$ ). Further analysis indicates that as the company size increases so does the export performance. The barriers and the export support constructs explain 30% of the variance in export perfor-

mance. The sample was clustered into three groups based on the number of employees. Firms in group one had 20 or fewer employees, group two included firms with 22 to 54 employees, and group three had firms with more than 60 employees. A one-way ANOVA test showed that at least one of the groups differ in export performance ( $F_{2,134} = 4.96$ ;  $p = .008$ ). A post hoc analysis using the Tukey test, also known as the Tukey "honestly significant difference (HSD)" indicates that there is a difference between group one and group three. Group one, the smaller firms, has lower export performance compared to group three, the larger firms. In addition, based on one-way ANOVA, the overall success of exporting efforts variable differs between group one (smaller firms) and group three (larger firms) ( $F_{2,134} = 5.76$ ;  $p = .004$ ). The post hoc analysis using Tukey's test indicates that there is a difference between group one and group two (mean = 3.78 vs. mean = 4.31 respectively) and group one and group three (mean = 3.78 vs. mean = 4.22 respectively) indicating that the larger firms are more successful. In testing the differences among the three groups of firms, the four barrier constructs were also compared. Only one of the four barriers was statistically significant. The procedural barriers construct was perceived as a higher barrier to group one, smaller firms, compared to the firms in group two ( $F_{2,134} = 4.96$ ;  $p = .008$ ; mean = 2.55 vs. mean = 2.06 respectively). These additional analyses provide support that larger firms are more successful in exporting activities compared to smaller firms.

## DISCUSSION AND CONCLUSIONS

As seen in the results section, lack of firm competence has the strongest negative impact on export performance. This construct is reflected by lack of trained personnel to manage export activities, language barriers, and transportation difficulties. The second most important construct as a barrier to export was fear of not

Figure 1. Model of Export Support, Export Barriers and Export Performance



Note: Path coefficients are standardized estimates: \* $p < .05$ , \*\* $p < .10$

receiving payment, followed by procedural barriers and lack of government assistance respectively. Interestingly, export support activities performed by external organizations had no direct impact on export performance, but had significant indirect impact by lowering the barriers. The export support activities construct lowers the lack of firm competence at a stronger level compared to other barriers, making the negative impact of this barrier on performance weaker. Therefore, to a certain extent, the export support activities performed by external organizations lower the barriers and improve the export performance.

One of the important findings of this research is that the firm size plays an important role in impacting export performance and barriers to export. Larger size firms have a better export performance, and to a certain extent, they face lower barriers compared to smaller firms. The procedural barrier construct is a much higher barrier for the smaller firms. It appears that lack of knowledge about exporting hampers exporting efforts for smaller firms (Ramaswani

and Yang, 1990). Export knowledge includes planning skills (Suarez-Ortega, 2003) and knowledge about opportunities in foreign markets (Czinkota et al., 2009). Our finding is consistent with previous research (Ifju & Bush, 1993; Karakaya & Harcar, 1999; Madsen, 1989; da Silva & da Rocha, 2001). As indicated earlier, lack of firm competence had the strongest influence on exporting. Although the analysis did not show any difference for the lack of firm competence barrier among the three groups of companies in different sizes, the indirect effect of export support activities signal that smaller firms lack knowledge and resources that would strengthen their competence.

In this paper, a number of small Canadian firms were interviewed about the usefulness of a number of support and advice services available to them through, mainly, the various government agencies, but also through other private organizations. These same respondents were asked about barriers to exporting they face in their exporting efforts. The contribution of the paper is that, first, this study confirms the find-

ings of other studies, i.e. the impact of export barriers on export performance. Another contribution is how export assistance programs affect performance. Our study provides evidence that export assistance programs influence export performance *indirectly* through their impact on barriers to exporting.

This research provides evidence that higher export barriers lead to lower export performance. We also found that the export support activities do not lower all export barriers a great deal. The strongest impact of export support activity is on firm competence. Specifically, export support activities lower the lack of firm competence barrier. While this impact is not very strong, it is significant enough to be noticed. We also believe that education and financial support provided to firms, especially to smaller firms, will increase export performance. The support functions should also be aimed at alleviating the fear of not receiving payments from foreign customers, since this barrier was one of the most important export barriers impacting export performance.

### MANAGERIAL IMPLICATIONS

As discussed earlier, most modern governments have a goal of increasing the export activities of their firms. In order to achieve this goal, they provide a variety of services designed to enhance the export profile of these firms. Through the export support programs, companies can gather intelligence and disseminate information, identify prospects, and gain customers (Serinhaus & Rosson, 1990). Governments must ensure that exporters receive appropriate assistance that helps them in their efforts to become more effective exporters. Consequently, it is important for governments to assess the needs of exporters, in order to provide the most beneficial programs and to use the limited funds more effectively (Crick & Czinkota, 1995).

The ability to export effectively depends on a firm's ability to overcome barriers such as lack of foreign market information, export doc-

umentation, financing, finding agents/ distributors and so on. Exporters can achieve better results by supplementing their own capabilities with government assistance programs. SMEs should take advantage of export assistance programs that help reduce export barriers to achieve greater export success. Consequently, public policy officials should focus more on export assistance programs, which studies show to have the greatest impact on export barriers.

### LIMITATIONS AND FUTURE RESEARCH

The findings of this research only apply to the Canadian firms in this study. While the conventional wisdom suggests that similar findings are likely in other Western nations, there might be differences. In addition, despite the fact that this research included the major export barriers discussed in the export literature, it was limited in the number of barriers tested. Future research could include more barriers to export and more than a single country in a variety of industries. Comparison of export barriers in different nations could also add to our understanding of both the sources of export barriers and the effectiveness of export support programs.

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## Causal Relationship between Information Communications Technology and Economic Growth in European Countries

Jung-Wan Lee  
Kip Becker

**ABSTRACT.** This study examines the causal relationship between information and communications technology (ICT) development and economic growth in 22 European countries. The Granger causality test is performed, following the co-integration approach, to reveal the direction of causality between ICT development and economic growth. Test results indicate two things: (1) there is long-run equilibrium relationship between ICT development and economic growth for Cyprus and Malta; and (2) a diverse one-way directional causality is evidenced, either ICT-led growth for Cyprus and Spain or growth-led ICT development for Portugal and Sweden. A discussion follows based on the empirical findings.

**KEY WORDS.** European countries, information and communications technology development, economic growth

### INTRODUCTION

Over the past decade, the development of information and communications technology (ICT), and the investment in the ICT sector, have been increasing rapidly in many countries. The fast growth of ICT can be explained by a number of factors, such as advancements in ICT related technologies and services, as well as market demand. In particular, over the past decade, many countries have seen explosive growth in mobile communications. Mobile communications are experiencing accelerated growth rates in both developing countries and industrialized countries in recent years. The diffusion of mobile ICT services has not only facilitated market competition but also attracted a lot of domestic and foreign investment into the ICT sector. During the past decade, world economic output has

also been growing at a fast rate, and in particular, in many developing countries. It has been widely recognized that the advancement of ICT is one of the driving forces behind globalization and rapid growth of the new world economy (van Ark, 2002).

Economic growth is the increasing ability of a nation to produce more goods and services. The use of ICT can enable the production of goods in a short amount of time, and services are also provided more efficiently and rapidly. Growth can occur in many different ways, for example, the increased use of land, labor, capital, and business resources, as well as the increased productivity of existing resource use through ICT. ICT investment can also increase economic growth in many ways. ICT networks provide the framework for the delivery of different services, improve communications be-

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Jung-Wan Lee, Ph.D., Assistant Professor of Marketing and Kip Becker, Ph.D., Chair, are affiliated with Administrative Sciences Department, Boston University, Boston, Massachusetts 02215, USA.

Address correspondence to Kip Becker, Chair, Department of Administrative Sciences, Boston University, 808 Commonwealth Avenue, Boston, Massachusetts 02215, USA. E-mail: kbecker@bu.edu

tween firms, spread to other industries, and contribute to their profits, thus affecting overall economic growth. This further advocates the impact of ICT in contributing to economic growth, occurring as a result of a country's development assisted by the use of ICT. The increased economic importance of ICT raises new questions for governments regarding the best policy frameworks to adopt for encouraging both ICT investment and ICT-led growth. The rapid diffusion of ICT in the past decades also introduces new policy issues for consideration, such as the effect of ICT on the distribution of economic activity and the influence of ICT on productions. The adoption of ICT and the consequent increased productivity, as well as economic growth induced by ICT development, have been described as the dawn of the new economy (Daveri & Silva, 2004). ICT development in many European countries continues to attract the interest of those governments, in view of its widely acclaimed potential to contribute to economic growth and development.

Does the development of ICT infrastructure lead to the increase of economic growth? Or does the increase of economic growth lead to the development of ICT infrastructure? It is a vital question to explicitly disentangle the effect of ICT development and investment on economic growth. For this reason, the causal relationship between ICT development and economic growth has long been a subject of interest for empirical investigation. To date, a large number of studies have focused on explaining the impact of ICT development on economic growth, and the issue has ranked among the active research fields since receiving considerable regulatory and public policy attention in many countries. ICT-led economic growth tends to occur when ICT demonstrates a stimulating influence across the overall economy. Although many studies find ICT development is one of the factors that affect economic growth, its contribution to the overall economy has varied between countries at different stages of development. To date, results of the causal relationship between

ICT development and economic growth have been mixed. As a matter of fact, research results for the relationship between ICT development and economic growth are inconclusive. It is therefore questionable to generalize from the study of one country to that of European countries.

This study aims to answer the following two questions: First, is there a long-run equilibrium relationship between ICT development and economic growth? Second, what is the direction of causality between the two variables in the short-run? This study aims to contribute to the literature testing the ICT-led economic growth hypothesis. The study employs co-integration tests to investigate a long-run equilibrium, and Granger causality tests to investigate directional causality in the short-run between ICT development and economic growth.

### *Literature Review*

Many studies have reported that ICT development contributes positively to economic growth on the country level, for example, in Greece (Antonopoulos & Sakellaris, 2009) and in many OECD countries (Colecchia & Schreyer, 2002; Oliner & Sichel, 2000; Whelan, 2002). They found a positive and statistically significant causal relationship that runs from ICT development to economic growth in Poland (Cieslik & Kaniewski, 2004) and even in the transition economies of Central and Eastern Europe (Piatkowski, 2006). They reported that ICT development plays an important role in the regional economic growth. Many studies have also reported that ICT development is one of the main drivers of better and sustainable economic growth (Daveri & Silva, 2004), as well as higher productivity (Laursen, 2004; Plepys, 2002) in many developing countries. Thompson and Garbacz (2007) reported that the development of ICT has a significant positive impact on productivity growth for the world as a whole, but particularly so for developing countries, by improving the efficiency of how these and other resources are used. However, Lee, Gholami, and

Tong (2005) reported that ICT development contributes to economic growth in many developed countries and newly industrialized countries, but not in developing countries. For example, many empirical studies supported that there exists a unidirectional causal relationship from ICT development to economic growth in the United States (Duggal, Saltzman, & Klein, 2007), in a group of OECD countries (Datta & Agarwal, 2004; Koutroumpis, 2009; Röller & Waverman, 2001).

On the contrary, Gordon (2000) reported that the ICT sector benefits from economic growth. Shiu and Lam (2008) reported that there exists a unidirectional causal relationship that runs from economic growth to ICT development in China. The result is consistent with some of the previous studies which have found a limited impact of ICT development on economic growth (Dewan & Kraemer, 2000; Jalava & Pohjola, 2002; Kenny, 2003). On the other hand, Lam and Shiu (2010) reported that there is a bidirectional relationship between ICT development and economic growth for European high-income countries. Many studies reported there exists a bidirectional causal relationship between ICT development and economic growth in 15 industrialized countries (Dutta, 2001) and in Central and Eastern Europe (Madden & Savage, 1998; 2000). Gramlich (1994) also reported a bidirectional relationship between ICT development and economic growth. They found that the effect of ICT development on economic growth is positive, and the direction of causation runs from economic growth to ICT development as well.

To conclude, this study expects that ICT development will play an important role in economic growth. The development of ICT and investment in the ICT sector will improve not only business efficiency and decision-making, but also boost overall economic growth. However, since the results of previous studies of the causal relationship between ICT development and economic growth have been mixed, this study suggests that the causal relationship between ICT

development and economic growth may not be independent of the level of economic growth and ICT development of countries. As a matter of fact, empirical results for European countries have been less rigorous in the ICT literature in terms of the causal relationship between ICT development and economic growth. Therefore, generalizing from the study of one country to European countries should be a significant contribution to the body of literature in this domain.

This paper investigates a long-term equilibrium relationship between ICT development and economic growth, and offers the findings to support the results of the previous studies. The empirical application of this paper uses the 22 member countries of the European Union (after excluding the Czech Republic, Estonia, Latvia, Lithuania, and Slovenia due to lack of data) based on data availability and compatibility to test for the validity of the theoretical findings. Accordingly, the following hypotheses are considered:

*Hypothesis 1: There is a long-run equilibrium relationship between ICT development and economic growth.*

*Hypothesis 2: ICT development leads to economic growth.*

*Hypothesis 3: Economic growth leads to ICT development.*

### **Research Methodology**

There are several key indicators for measuring ICT development, those include: ICT sector revenues; ICT sector employment; ICT goods exports; ICT service exports; number of ICT firms; ICT investments and expenditures (as a percentage of GDP); broadband Internet subscribers (per 100 people); Internet users (per 100 people); mobile cellular subscriptions (per 100 people); mobile and fixed telephone subscribers (per 100 people). The diversity of ICT development measures available make it difficult to give priority to a particular indicator for measuring ICT development. For example, ICT expenditures (as a percentage of GDP) include computer hardware, computer software, com-

puter services, communications services, and wired and wireless communications equipment. Broadband Internet subscribers (per 100 people) are the number of broadband subscribers with a digital subscriber line, cable modem, or other high-speed technology. Internet users (per 100 people) are the number of people with access to the worldwide network. Mobile cellular telephone subscriptions (per 100 people) are subscriptions to a public mobile telephone service using cellular technology, which provide access to the public telephone network.

Though various indicators of world ICT development are reported periodically by International Telecommunication Union, the periodic instability among the most commonly used measurements deter the need to rely on a single superior measure. Moreover, as good as the indicators may appear, the paucity of data in the ICT development in many developing countries poses a serious problem for the adoption of many of the indicators, due to limited data availability and comparability. For this reason, different researchers have employed different indicators in their measurement of ICT development. Therefore, the accuracy of a proxy has not been subject to careful statistical scrutiny. Despite these facts, mobile and fixed-line subscribers (per 100 people), were used as a proxy of ICT development for the countries in this study, because they are universally measured and a consistent index collected by the international agencies, and also because their longitudinal data availability corresponds well with that of real Gross Domestic Product (GDP).

The metrics used to measure economic growth are the Gross Domestic Product (GDP) that determines the value of output produced within a country during a time period, and the Gross National Product (GNP) which identifies the annual value of output produced within a country plus net property income from abroad. Due to data availability, the data on real GDP, real exchange rates relative to the U.S. dollar, are used as a proxy of economic growth for the countries in this study. The information on GDP

as well as mobile and fixed-line telephone subscribers (per 100 people) has been obtained from the world development indicators of the World Bank (<http://data.worldbank.org/>) and has been reported on an annual basis. The yearly time-series of the information were available from 1960 to 2009. To match the time period with ICT development, the GDP was chosen yearly from 1975 to 2009 (35 observations) for this study. Additionally, the two time-series are seasonally unadjusted and, therefore, transformed into a natural log form to minimize any possible distortions of dynamic properties of the data and thus to remove a heteroscedasticity problem from the model initially.

### *Unit Root T-test*

Most of economic time-series data are likely to be non-stationary. If a time-series is found to be non-stationary, a filtering mechanism, such as the first difference of the variable, can be employed to induce stationarity for univariate model estimation. Augmented Dickey-Fuller (Dickey & Fuller, 1981) and Phillips-Perron (Phillips & Perron, 1988) tests are carried out to test the null hypothesis of a unit root in the level and the first difference of the two variables. As Enders (2004) indicated, the Augmented Dickey-Fuller (ADF) test assumes the errors to be independent and to have constant variance, while the Phillips-Perron (PP) test allows for fairly mild assumptions about the distribution of errors.

The null hypothesis of a unit root cannot be rejected in the level of the variables, but all null hypotheses of a unit root are rejected in the first difference or the second difference of the variables. The results of both ADF and PP tests unanimously confirm that all variables are integrated of order one  $I(1)$  or order two  $I(2)$ . The optimal lag in the ADF test is automatically selected based on the Schwarz Info Criterion (SIC), and the bandwidth for the PP test is selected based on the Newey-West estimator (Newey & West, 1994) using the Bartlett kernel function, but the

numeric values are not reported in this paper due to space constraints.

### *Co-integration Test*

According to Granger (1988), co-integration means that the two non-stationary variables are integrated in the same order with the stationary of residuals. If the two variables are co-integrated, there exists a force that converges into a long-run equilibrium. In other words, if ICT development and economic growth are co-integrated, there is a force of equilibrium that keeps ICT development and economic growth together in the long-run. There are two test methods to identify the presence of a co-integrating relationship between two variables: (a) the Engle-Granger two-stage single equation method (Engle & Granger, 1987); and (b) the Johansen-Juselius co-integration test (Johansen & Juselius, 1990). The Johansen method has two separate tests, the trace test and the maximum eigenvalue test. The Engle-Granger method obtains only one single co-integration relationship, whereas it is possible to obtain more than one co-integration relationship with the Johansen method. In light of this, the Engle-Granger method is an Ordinary Least Squares (OLS) based test, and the Johansen method is a maximum likelihood based test that requires a large sample.

For the Engle-Granger method in this study, the Augmented Dickey-Fuller (ADF) test equation includes an intercept but no time trend. The test equations were tested by the method of least squares. The optimal lags are automatically selected for the ADF test based on the Schwarz Info Criterion (SIC). Based on the residual sequence of the ADF test, the null hypotheses of a unit root cannot be rejected for all countries in the study, except Austria, Cyprus, and Malta, which have proven to have one co-integrating relationship between ICT development and economic growth among the countries. Non-stationarity in the residual means that the two time-series of ICT development and economic growth variables are not co-integrated in the

long-run. This indicates that a linear combination of the two variables does not exist in the long-run. Therefore, co-integration does not exist between ICT development and economic growth in most of the countries, except the Austria, Cyprus, and Malta cases in this study. Numeric values of the results of co-integration test by the Engle-Granger method are not reported in this study due to space limitations.

Cheung and Lai (1993) reported that the Johansen approach is more efficient than the Engle-Granger method because the maximum likelihood procedure has significantly large and finite sample properties (Gonzalo, 1994). Johansen (1991) considers a simple case where  $X_t$  is integrated of order one  $I(1)$ , such that the first difference of  $X_t$  is stationary. Suppose the process  $X_t$  is defined by an unrestricted Vector Autoregressive (VAR) system of order  $(n \times 1)$ . The Johansen's approach derives maximum likelihood estimators of the co-integrating vectors for an autoregressive process with independent errors. The Johansen method maximizes the likelihood function for  $X_t$  conditional on any given  $\alpha$ , using standard least squares formulae for the regression of  $\Delta X_t$  on the lagged differences  $\Delta X_{t-1}, \Delta X_{t-2}, \dots, \Delta X_{t-j}$ . The Johansen co-integration test models each variable (which are assumed to be jointly endogenous) as a function of all the lagged endogenous variables in the system. To illustrate the unrestricted VAR co-integration test of Johansen, consider a general VAR model written in the error correction form with Gaussian errors as shown in the following Equation 1.

$$\Delta X_t = \alpha + \sum_{j=1}^{n-1} \beta_j \Delta X_{t-j} + \gamma X_{t-n} + \zeta ECT_t + \varepsilon_t \quad (1)$$

Where,  $\Delta$  is the difference operator;  $\alpha$  is the deterministic component;  $\beta$ ,  $\gamma$ , and  $\zeta$  are the parameters to be estimated;  $\varepsilon_t$  is assumed to be stationary random errors with mean zero, that is, white noise;  $j$  is the lag length;  $t$  represents 1, 2, 3, ...,  $n$  observation;  $X_t$  is the  $k$  vector of non-stationary variable and is considered fixed, and the likelihood function is calculated for a given

value of this;  $ECT_t$  is the error correction term obtained from the co-integrating vectors.

The Johansen procedure uses two ratio tests: (a) a trace test; and (b) a maximum eigenvalue test, to test for a number of co-integration relationships. Both can be used to determine the number of co-integrating vectors present, although they do not always indicate the same number of co-integrating vectors. The trace test is a joint test, the null hypothesis is that the number of co-integrating vectors is less than or equal to  $r$ , against a general alternative hypothesis that there are more than  $r$ . The maximum eigenvalue test conducts separate tests on each eigenvalue. The null hypothesis is that there are  $r$  co-integrating vectors present against the alternative that there are  $(r + 1)$  present. The distribution of both test statistics is non-standard. The order of  $r$  is determined by using the two likelihood ratio test statistics: the trace statistic,  $\lambda_{trace}$ , and the maximum eigenvalue statistic,  $\lambda_{max}$ , as shown in Equation 2 and 3:

$$\lambda_{trace} = -T \sum_{j=r+1}^n \ln(1 - \hat{\lambda}_j) \quad (2)$$

$$\lambda_{max} = -T \ln(1 - \hat{\lambda}_{r+1}) \quad (3)$$

Where,  $r$  is the hypothesized number of co-integrating equation;  $\hat{\lambda}_j$  is the  $j$ th largest estimated eigenvalue of the coefficient matrix;  $T$  is the sample size, the number of observation used for estimation. The result can be sensitive to the number of lags included in the test and the presence of autocorrelation. This needs a large sample. While doing the Johansen co-integration test, if there arises a different result between trace statistic and maximum eigenvalue statistic, the result of maximum eigenvalue test is preferred in this study due to the benefit of separate tests on each eigenvalue.

For the trace t-statistic, critical value for rejection of the null hypothesis of no co-integration is employed at the 0.05 level (t-value > 15.494) for  $\gamma = 0$  and (t-value > 3.841) for  $\gamma \leq 1$ . For the maximum eigenvalue t-statistic, critical value for rejection of the null hypothesis of

no co-integration is employed at the 0.05 level (t-value > 14.264) for  $\gamma = 0$  and (t-value > 3.841) for  $\gamma \leq 1$ . The results of the Johansen co-integration test in Table 1 show that the trace statistics and the maximum eigenvalue statistics are smaller than the critical values for most of the countries in the study; therefore, the null hypothesis of no co-integration cannot be rejected at the 5 % significance level for the countries. The results indicate that there is no co-integration relationship between the two variables at the 0.05 level, except the Austria, Cyprus and Malta cases, which the trace statistic and the maximum eigenvalue statistic are greater than the critical values, the null hypothesis of no co-integration can be rejected at the 0.05 level. For the Austria, Cyprus, and Malta cases, the results indicate the existence of one co-integrating equation between ICT development and economic growth in the countries.

Therefore, this study concludes that Hypothesis 1 “*There is a long-run equilibrium relationship between ICT development and economic growth*” is not supported. In other words, there exists no long-run equilibrium between the two variables. In this case the Granger causality test method (Granger, 1988) by an unrestricted VAR model is the best option for testing directional causality of short-run dynamics. However, for the Austria, Cyprus, and Malta cases, the hypothesis is supported that there exists one co-integrating relationship between ICT development and economic growth in the countries. In this case the use of the standard Granger causality test method is not the best option for testing directional causality of short-run dynamics. As an alternative, a Vector Error Correction Model (VECM) with an error correction term in the equation is constructed and then applied to the data for Austria, Cyprus, and Malta.

### **Granger Causality Test**

Granger (1988) note that if two time-series variables are not co-integrated, then there may be unidirectional or bidirectional Granger causality in the short-run.



Table 1. Results of the Johansen Co-integration Test

Country	Trace test		Maximum Eigenvalue test	
	$r = 0$	$r \leq 1$	$r = 0$	$r \leq 1$
Austria	13.562*	0.942	12.620*	0.942
Belgium	9.600	0.943	8.657	0.943
Bulgaria	5.483	0.026	5.458	0.026
Cyprus	27.370***	2.330	24.046***	2.330
Denmark	4.683	1.000	3.682	1.000
Finland	8.304	0.821	7.482	0.821
France	7.235	2.038	5.196	2.038
Germany	7.293	0.405	6.888	0.405
Greece	7.362	0.346	7.016	0.346
Hungary	13.262	2.433	8.829	2.433
Ireland	6.101	1.726	4.374	1.726
Italy	13.311	2.429	10.881	2.429
Luxembourg	7.007	0.120	6.886	0.120
Malta	18.917**	1.781	17.135**	1.781
Netherlands	12.945	0.522	11.422	0.522
Poland	5.518	0.449	5.068	0.449
Portugal	8.505	0.896	7.609	0.896
Romania	10.388	2.558	7.719	2.558
Slovakia	2.939	0.135	2.790	0.135
Spain	8.905	0.248	8.656	0.248
Sweden	7.147	2.305	4.841	2.305
UK	13.139	2.909	10.230	2.909

Note: The test equations were tested by the method of least squares. For the Johansen co-integration test, the assumptions of co-integration test allow for leaner deterministic trend in data, which include an intercept but no time trend and test VAR. For the both trace and maximum eigenvalue test statistics, the probability value for rejection of the null hypothesis of no co-integration is employed at the 0.05 level (\*\*\*, p-value < 0.01; \*\*, p-value < 0.05; \*, p-value < 0.1) based on the MacKinnon-Haug-Michelis (1999) p-values.

The short-run Granger causality is tested by the joint significance of the coefficient of the differenced explanatory variable by using an F-test or Wald test. The traditional practice in testing the direction of causation between two variables has been to use the standard Granger causality test (i.e., pairwise Granger causality tests for bivariate time-series) using the F-statistics. As an alternative, the short-run Granger causality can be tested by the Wald test. Under the Wald test, the maximum likelihood estimate of the parameters of interest is compared with the proposed value, with the assumption that the

difference between the two will be approximately normal. Typically the square of the difference is compared to a chi-squared distribution. The Block Exogeneity Wald test in the VAR system provides chi-squared statistics of co-efficients on the lagged endogenous variables, which are used to interpret the statistical significance of coefficients of the regressors. In this way, Wald test statistics can be used to find out the Granger causal effect on the dependent variable. In the VAR system, Granger causality is done to glimpse the short-run causality running from independent variables to a dependent variable,

using asymptotic t-statistics that follow chi-squared distribution instead of F distribution. The hypothesis in this test is that the lagged endogenous variable does not Granger cause the dependent variable. For all countries except Austria, Cyprus, and Malta, to answer the question regarding the direction of causation in the short-run, the Granger causality tests by unrestricted VAR models are performed.

Engle and Granger (1987) and Granger (1988) note that if the two variables are co-integrated, there always exists a corresponding error correction representation, in which the short-run dynamics of the variables in the system are influenced by the deviation from equilibrium. For the Austria, Cyprus, and Malta cases, the existence of a long-run equilibrium relationship between ICT development and economic growth implies that the two variables are causally related, at least in one direction. The VECM is a technique that facilitates the capture of both the dynamic and interdependent relationships of the said variables, and is a special type of restricted VAR to correct a disequilibrium that may shock the whole system. The VECM implies that changes in one variable are a function of the level of disequilibrium in the co-integrating relationship, as well as changes in the other explanatory variable. Therefore, a VECM model can be constructed as shown in Equation 4 and 5.

The VECM can distinguish between the short-run and long-run Granger causality because it can capture both the short-run dynamics between the two time-series and their long-run equilibrium relationship. The long-run causality is implied through the significance of the t-statistics of the lagged error correction terms (i.e., by testing  $H_0: \zeta_1 = 0$ ). In this case, it estimates the asymptotic variance of the estimator, and then the t-statistics will have asymptotically the standard normal distribution. Therefore, asymptotic t-statistics in this test can be interpreted in the same way as t-statistics, which are used to interpret the statistical significance of coefficients of the lagged error correction terms, which contain the long-run information because it is derived from the long-run co-integrating relationship. The short-run Granger causality can be tested by the Wald test. The Block Exogeneity Wald test in the VECM system provides chi-squared statistics of coefficient on the lagged endogenous variables, which are used to interpret the statistical significance of coefficients of the regressors. In this way, Wald test statistics can be used to find the Granger causal effect on the dependent variable. The hypothesis in this test is that the lagged endogenous variable does not Granger cause the dependent variable.

$$\Delta \ln GDP_t = \alpha_1 + \sum_{j=1}^{n-1} \beta_{1j} \Delta \ln ICT_{t-j} + \sum_{j=1}^{n-1} \gamma_{1j} \Delta \ln GDP_{t-j} + \zeta_1 ECT_{t-1} + \varepsilon_{1t} \quad (4)$$

$$\Delta \ln ICT_t = \alpha_2 + \sum_{j=1}^{n-1} \beta_{2j} \Delta \ln GDP_{t-j} + \sum_{j=1}^{n-1} \gamma_{2j} \Delta \ln ICT_{t-j} + \zeta_2 ECT_{t-1} + \varepsilon_{2t} \quad (5)$$

Table 2. Results of Granger Causality Tests

Country	"Y"	$\Delta \ln \text{GDP}$		$\Delta \ln \text{ICT}$	
	"X" Method	$\Delta \ln \text{ICT}$ (H2)	ECT	$\Delta \ln \text{GDP}$ (H3)	ECT
Austria	VECM	0.433	1.250	1.352	2.231
Belgium	VAR	1.168	n.a	0.736	n.a
Bulgaria	VAR	5.173*	n.a	1.190	n.a
Cyprus	VECM	13.125***	4.405***	2.073	0.670
Denmark	VAR	1.662	n.a	0.190	n.a
Finland	VAR	1.807	n.a	0.920	n.a
France	VAR	1.734	n.a	0.104	n.a
Germany	VAR	3.149	n.a	2.267	n.a
Greece	VAR	1.967	n.a	1.009	n.a
Hungary	VAR	0.271	n.a	2.554	n.a
Ireland	VAR	1.142	n.a	0.168	n.a
Italy	VAR	0.675	n.a	0.339	n.a
Luxembourg	VAR	2.971	n.a	5.384*	n.a
Malta	VECM	2.405	0.559	1.825	3.068**
Netherlands	VAR	0.832	n.a	0.261	n.a
Poland	VAR	0.358	n.a	3.348	n.a
Portugal	VAR	2.318	n.a	4.655*	n.a
Romania	VAR	1.852	n.a	0.295	n.a
Slovakia	VAR	2.759	n.a	2.477	n.a
Spain	VAR	5.593*	n.a	0.504	n.a
Sweden	VAR	0.975	n.a	5.101*	n.a
UK	VAR	0.458	n.a	0.294	n.a

Note: The coefficients of regressors have been estimated by VAR or VECM. Numbers in the cells of the independent variable ("X") are chi-square statistics and numbers in the cells of ECT are asymptotic t-statistics, which are used to interpret the statistical significance of the parameters. The probability value for rejection of the null hypothesis is employed at the 1% significant level (\*\*\*, p-value < 0.01), the 5% significant level (\*\*, p-value < 0.05), and the 10% significant level (\*, p-value < 0.1).

Table 2 displays the results of Granger causality tests with annual data. The null hypothesis regarding no causation leading from ICT development to economic growth in the short-run can be rejected only for Cyprus at the 1% significance level, and for Spain at the 10% significance level. The null hypothesis regarding no causation leading from economic growth to ICT development in the short-run can be rejected only for Luxembourg, Portugal, and Sweden at the 10% significance level. The results are consistent with different lag selections, but the numeric values of the results of different lag selections are not reported in this study.

Considering the results of the Granger causality test in Table 2, this study concludes that Hypothesis 2 "*ICT development leads to economic growth*" is supported only for the Cyprus and Spain cases. Hypothesis 3 "*Economic growth leads to ICT development*" is supported only for the Luxembourg, Portugal, and Sweden cases. In other words, due to the presence of only one-way directional causal relationship from ICT development to economic growth for Cyprus and Spain, this finding implies that ICT development plays a critical role in forecasting the economic growth in the two countries.

### *Discussion and Conclusion*

Unlike the empirical findings of the previous studies, the Granger causality test in this study does not support the hypothesis of ICT-led economic growth in the short-run for most of the European Union member countries, except the Cyprus and Spain cases. Some of the possible reasons why the ICT-led growth hypothesis is true only for Cyprus and Spain are that ICT development in the two countries would lead to economic growth. At the same time, the role of ICT development in the two countries would strongly affect economic growth in such conditions. The results of this study also find a one-way causal relationship from economic growth to ICT development for Luxembourg, Portugal, and Sweden. Some of the possible reasons why the growth-led ICT development hypothesis is true for Luxembourg, Portugal, and Sweden are that economic developments would be beneficial for ICT development in Luxembourg, Portugal, and Sweden, and ICT development is strongly affected by economic growth of the countries in such conditions. The results of this study find no directional causal relationship between ICT development and economic growth for most of the European Union member countries. Given that most of the European Union member countries have been showing relatively slow, in terms of ratios of economic growth compared to that of ICT development, it is rational to believe that the ICT development of such countries is strongly affected by the industrial structures in such conditions.

Considering that the findings of these empirical studies differ among the European Union member countries, the inconsistent results may indeed be a reflection of the specific countries' stage of economic development. Because countries could be different in terms of both the weight of the ICT industry in the overall economy and the size and openness of the economy, therefore the ICT-led growth hypothesis could also differ from one country to another. The diverse relationships between ICT development and economic growth in different country set-

tings found in existing empirical studies further support that country-specific conditions influence the results. Therefore, a careful empirical analysis is desirable for any country that may want to focus on the ICT industry as part of its national economic development strategy. The analysis will verify if the common notion that the ICT leads to growth is in fact applicable to that particular country. Based on the results of this study, decisions on the ICT-led economic growth strategy can be adjusted or altered for such factors as the overall ICT investments and ICT infrastructure budget, approval of private or governmental ICT projects, and so forth.

In sum, the results of the causality test can help the government set priorities regarding where and how to use limited resources for national economic growth. If empirical results support the ICT-led growth hypothesis in the short-run and long-run, more resources should be allocated to the nation's ICT industry as a priority rather than to other sectors. This allocation of resources is appropriate in the case of Cyprus, since ICT-boosting policies as a means of economic growth will be fully effective. If an economic growth-led ICT development holds true, the government should allocate resources to leading industries and not to ICT directly, so that the overall economy will be improved and the ICT industry will benefit from economic growth, which is appropriate in the cases of Luxembourg, Portugal, and Sweden.

To detect the causal relationship, this study performed Granger causality tests following the co-integration approach, which has been the typical method favored in studies of this kind. The current study discovered mixed results between ICT development and economic growth in 22 member countries of the European Union. Note that empirical results on the causal relationship between the two variables have been inconsistent in the past. The mixed results indicate that the direction of causality between ICT development and economic growth may be determined by various factors of the country. In conclusion, factors for each country such as the de-

gree of dependence on the ICT industry, the usage of ICT and the level of economic development may each be considered individually as important determinants.

The mixed results of this study point to several further research directions for the future. First, the simple bivariate VAR and VECM models were used in this study. The important and critical roles that other microeconomic factors play in model specifications were not fully considered. This can be improved by adopting an approach of using multivariate Granger causality tests, to include important variables such as foreign direct investment, exports, and other socio-economic factors. Second, the limitations of this study may be related to data availability. Instead of using a series of mobile and fixed-line telephone subscribers (per 100 people) information, the more accurate measure of ICT development generated from economic impact data, so called credible instruments, will produce more precise causal relations.

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## Impact of Customer Relationships on Brand Equity in Chinese Retail Banking

Svetla Marinova  
Jinhuan Cui  
Eric Shiu  
Marin Marinov

**ABSTRACT.** Building strong brand equity is imperative in the highly competitive financial services sector. Despite tremendous interest in brand equity and relationship marketing, little conceptual development or empirical research has addressed whether relationships exist between these important marketing issues. This study explores the associations between customer relationships and brand equity in the context of the Chinese banking system. A conceptual framework is proposed in which the constructs of customer relationships, including relationship closeness, relationship strength, and relationship satisfaction are related to the dimensions of brand equity, which comprises of perceived quality, brand loyalty, and brand associations, combined with brand awareness. Empirical tests using structural equation modeling support the research hypotheses and reinforce the importance of the linkage between the two domains of branding and relationship marketing, which are traditionally apart. The research findings provide bank managers with a comprehensive understanding of how customer relationships impact the dimensions of brand equity, which will enable them in turn to design more effective marketing strategies to enhance the evaluation of brand equity.

**KEY WORDS.** Relationships, brand equity, banking services, China

### INTRODUCTION

Brand equity is the incremental utility and value added to a product by its brand name (Park & Srinivasan, 1994; Rangaswamy et al., 1993). High brand equity implies that customers have positive and strong associations with a brand (Keller, 2003; Atigan et al., 2009). The introduction of customer relationships to brand equity has serious implications for building and managing brand equity (Aaker, 1997; Schreuer, 1998; Schreuer, 2000, Marinova et al., 2008).

Whenever the risks associated with purchase and consumer involvement are greater, as is the case with financial services, customer relationships may play an important part by enabling a brand to fulfil its role of risk reducer, helping customers to obtain “cognitive consistency and psychological Comfort” (Dall’ Olmo Riley & de Chernatony, 2000). Consequently, brand equity can be managed and maintained by utilizing strategies that include increased interactions between the consumer and the brand, in order to create and reinforce key brand associations.

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Svetla Trifonova Marinova, Ph.D. is an Associate Professor at Department of Business Studies, Aalborg University, Aalborg East 9220, Denmark. Jinhuan Cui, Ph.D. and Eric Shiu, Ph.D. are Lecturers at The Birmingham Business School, The University of Birmingham, Edgbaston, Birmingham B15 2TT, United Kingdom and Marin Marinov, Ph.D. is Professor of International Business and Management, University of Gloucestershire, United Kingdom

Address correspondence to Svetla Trifonova Marinova, Department of Business Studies, Aalborg University, Fibigerstraede 2, Aalborg East 9220, Denmark, E-mail: svetla@business.aau.dk

In terms of retail financial services, before banks can create or take advantage of consumer brand associations, they must first understand consumers' existing brand perceptions. As such, an important component of banks' effort to build better relationships with their customers will be an increased focus on soliciting, listening, and responding to consumer needs (Keller, 1998) so as to increase bank-customer interactions that can strengthen emotional loyalty to the brand (Rozanski et al., 1999; Pinar et al., 2011).

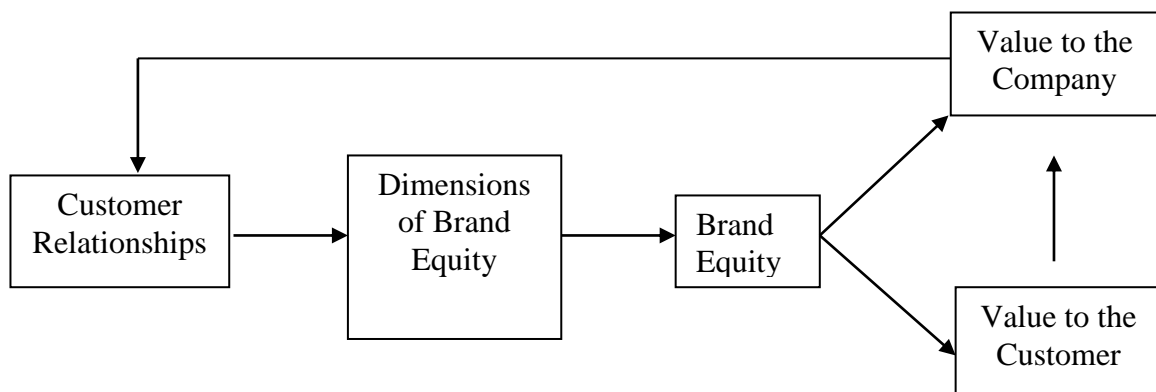
The focus of this paper is the interface between brand equity and customer relationships, identifying the interdependences of relationship marketing and brand management. The study is conducted in China where the banking sector is gaining market power but the market infrastructure and institutional system are still developing (Peng & Health, 1996; Marinova et al., 2011).

### CONCEPTUAL FRAMEWORK

This study extends Aaker's (1991) framework by incorporating Berry's (2000) model of building service brand equity (Figure 1). Aaker's model (1991) proposes that first, brand equity creates value for both the customer and the company; second, value for the customer enhances value for the company; and finally, brand equity consists of multiple dimensions. Furthermore, brand equity is influenced by the combined effect

of brand awareness and meaning, in terms of customer response to the marketing of a brand. Consequently, positive brand equity is the marketing advantage, which accrues to a company from the synergy of brand awareness and brand meaning stemming from customer experience (Berry, 2000). Aaker's (1991) conceptualization proposes that brand equity creates value for the firm as well as for the customer. The value for the customer enhances the value for the company by increasing the probability of brand choice, willingness to pay premium prices, marketing communication effectiveness, and brand licensing opportunities; and decreases brands' vulnerability to competitive marketing actions and elastic responses to price increases (Farquhar et al., 1991; Bharadwaj et al., 1993). The suggested framework extends Aaker's model in two ways. First, a separate construct is included, i.e., brand equity, between the dimensions of brand equity and the value for the customer and the company. The brand equity construct shows how individual dimensions are related to brand equity. Second, an antecedent of brand equity is included, which is customer relationships, assuming that they have significant effects on the dimensions of brand equity, and thus further influence the creation of brand equity. The extension of the classical model of brand equity allows for researching the impact of customer relationships on brand equity.

Figure 1. Conceptual Framework of Brand Equity and Relationship Marketing





Being the focus of the research, customer-based brand equity is defined as the different effect of brand knowledge on consumer response to the marketing of the brand (Keller, 1993). Brand equity is seen as consisting of brand-related beliefs, including perceived quality, brand loyalty, and brand associations combined with brand awareness (Aaker, 1991; 1997; Keller, 1993; 1998). High brand equity implies that customers have positive and strong associations with the brand, perceive the brand as of high quality, and are loyal to it.

Defined as “the consumer’s subjective judgment about a product’s overall excellence or superiority” (Zeithaml, 1988), perceived quality may be influenced by the consumer’s subjective judgment of personal product experiences, unique needs and consumption situations. Oliver (1997) defines brand loyalty as “a deeply held commitment to re-buy or re-patronize a preferred product or service consistently in the future, despite situational influences and marketing efforts having the potential to cause switching behavior.” Loyal consumers show more favorable responses to a brand than non-loyal or switching consumers do (Grover & Srinivasan, 1992). Hence, to the extent that consumers are loyal to the brand, brand equity will increase.

Clear brand awareness and strong brand associations form a specific brand image. Aaker (1991) defines brand associations as “anything linked in memory to a brand,” and brand image as “a set of brand associations, usually in some meaningful way.” Brand associations are complicated and connected to one another, and consist of multiple ideas, episodes, instances, and facts that establish a solid network of brand knowledge. The associations can become stronger when they are based on many experiences or exposures to communications, rather than a few (Aaker, 1991; Alba & Hutchinson, 1987). Brand associations, which result in high brand awareness, are positively related to brand equity because they can be a signal of quality and commitment, and they help a buyer consider the

brand at the point of purchase, which leads to favorable consumer behavior toward the brand.

Although there has been a lack of research on the factors that increase or decrease the quality of relationships (Berry, 1995), reviews of the literature on relationship marketing and social psychology literature pertaining to interpersonal relationships have been carried out (Barnes, 1994; Sheaves & Barnes, 1996). They have identified attitudinal and psychological dimensions of relationships and certain conditions, situations, and behavioral variables that are often associated with the existence of a relationship. These will be used to build the construct of customer relationships in this study. Considering various suggestions, relationship closeness, relationship strength, and relationship satisfaction are recognized as common constructs of customer relationships (Barnes, 1997; Barnes & Howlett, 1998).

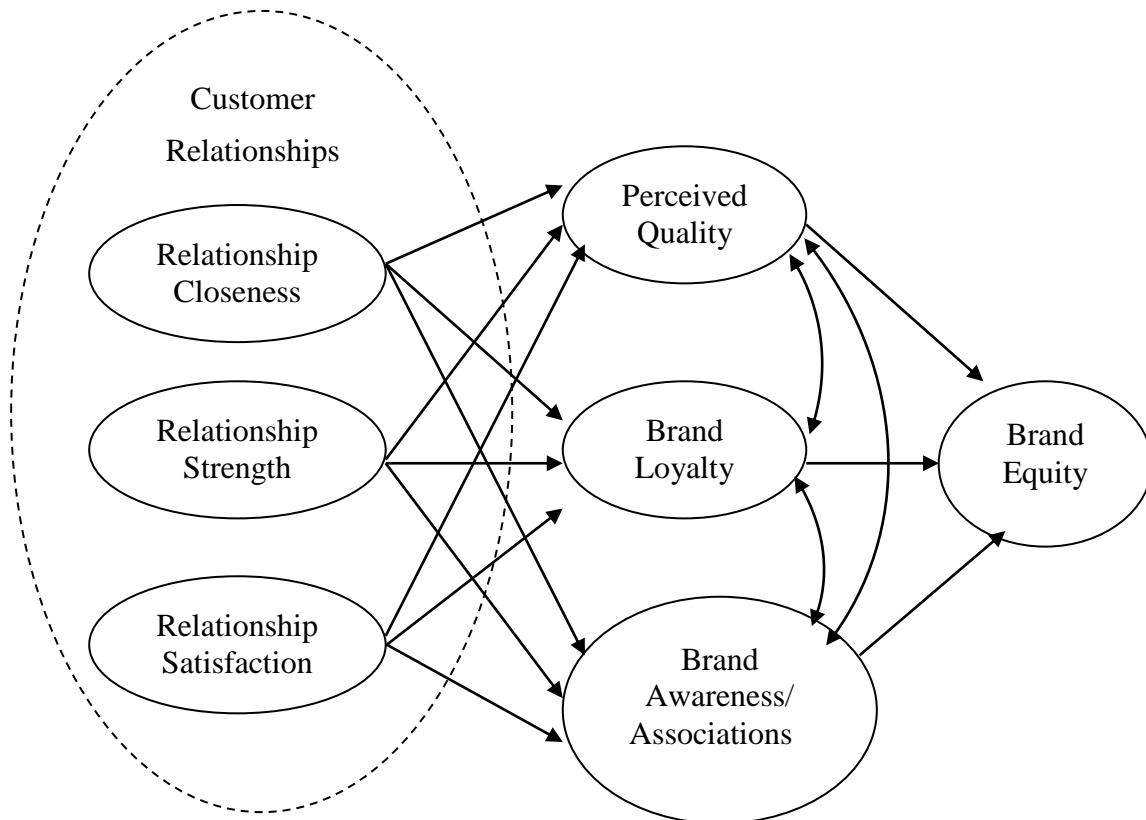
Many social psychologists have studied the phenomenon of close relationships. The construct “closeness” has considerable value in relationship marketing as it may be presumed that close relationships are likely to endure. Social psychologists have acknowledged that some relationships are closer than others and that different groups may be more or less prone to establish close relationships (Berscheid et al., 1989a). Kelley et al. (1983) consider a relationship to be close if there is a high degree of interdependence, demonstrated through frequent contact, diverse kinds of activities and long duration of contact. This is a behaviorally based definition of the construct. Barnes (1997) provides an insight into the nature of close customer relationships in retail financial services. Additionally, other authors have developed approaches to measuring relationship closeness that facilitate the measurement of consumer relationships with companies.

Lehtinen et al. (1994) measure the intensity of relationships in marketing. Berscheid et al. (1989b) incorporate a measure of relationship strength or depth in their relationship closeness inventory when examining the relationships between customers and financial institutions. The

implications are that enduring, intense relationships are less vulnerable and more sustainable. The measure incorporating the strength of customers' interactions with their banks indicates that the relationship is considered stronger when a customer gives a bank a higher percentage of his or her business, when he or she intends to continue the relationship into the future, and when he or she is prepared to recommend the bank to others. Berscheid et al. (1989a, 1989b) state that a relationship cannot exist without emotional content. Satisfying relationships have positive affective ties. So in this research, the emotional content of customer relationships will be combined with the measurement of satisfaction. Rosen and Surprenant (1998) indicate that customer relationships are built upon repeated encounters and are dyadic. They define satisfaction as an overall evaluation of feelings (Gotlieb et al. 1994). Most measures of global satisfaction have used a one-item 5 or 7-point satisfaction

scale, anchored from "very satisfied" to "very dissatisfied," even though some multi-item scales are available (Babin & Griffin, 1998). Four common items cover Oliver's (1997) definition of satisfaction, by measuring the respondents' overall feelings toward their retail banking service provider on a 7-point semantic-differential scale, anchored by "dissatisfied/satisfied," "welcome/ignored," "pleased/disappointed," and "comfortable/uncomfortable." Barnes (1997) suggests that satisfaction with one's banking relationship is very much influenced by the emotional tone of the interaction, by the frequency with which the customer is made to feel relaxed, welcome, pleased, comfortable, and pleasantly surprised; as opposed to angry, disappointed, frustrated, ignored, and let down. For the present study, relationship satisfaction is the satisfaction from the relationship between an individual customer and a bank, which is derived from an emotional perspective.

Figure 2. Structural Model of Customer Relationships and Brand Equity



### **Research Hypotheses**

On the basis of the literature review and exploratory research, two groups of hypotheses are developed. It is hypothesized that directional relationships exist among the dimensions of brand equity, the constructs of customer relationships, and overall brand equity. The relational paths among the constructs are summarized in Figure 2 below. Values to the company and to the customer are included in the conceptual framework to suggest a worthwhile path for further study in the structure of brand equity.

Zeithaml (1988) argues that perceived quality is a component of brand value. To the degree that quality of a brand is perceived by the customers, brand equity will increase. Brand associations, which result in high brand awareness, are positively related to brand equity because they signal quality and commitment, and they help a buyer consider the brand at the point of purchase, which leads to favorable consumer behavior for the brand (Aaker, 1991). Loyal consumers show more favorable responses to a brand than non-loyal or switching consumers do (Grover & Srinivasan, 1992). Therefore, the following hypotheses are proposed:

**Hypothesis 1a:** *Consumer-oriented brand equity (brand equity) is positively related to consumers' perceived quality of the product associated with the brand (perceived quality).*

**Hypothesis 1b:** *Consumer-oriented brand equity (brand equity) is positively related to the consumers' association to the brand (brand association).*

**Hypothesis 1c:** *Consumer-oriented brand equity (brand equity) is positively related to consumers' loyalty to the brand (brand loyalty).*

The construct closeness identifies that customers believe the relationship to last (Barnes, 1997). Close relationships are emotive, involving a collection of perceptions about the company or

brand (Fournier, 1998). As perceived quality is based on consumers' subjective judgment (Zeithaml, 1988), perceived quality is influenced not only by the objective functional attributes of a product/service, but also by the consumer's subjective judgment that comes from product experiences, personal needs, and consumption situations (Grönroos, 1984; 1990). Kelly et al. (1983) consider a relationship to be close where a high degree of interdependence is present. When a customer keeps frequent contact with his or her primary financial supplier, the familiarity of the customer with the services and the bank can be established in the customer's memory, and it can influence the cognition of perceived quality of this bank, since familiarity is driven by the frequency of the interaction and its depth (Gremler et al., 2001). Thus, it is proposed that:

**Hypothesis 2a:** *Perceived quality is positively related to consumers' perception of the closeness of their relationship with the business owning the brand (relationship closeness).*

Brand associations, which result in high brand awareness, are proposed to be positively related to brand equity (Yoo et al., 2000). From the perspective of consumer psychology, humans develop emotional attachment toward certain personal objects and possessions (Wallendorf & Arnould, 1988) and on the associations of meaning with such objects. The same feeling is often associated with companies and brands (Barnes, 2003). Customers will be disappointed when a brand is no longer available or when a trusted brand changes its formulation because those changes 'destroy' customers' associations with the brand. Building relationship closeness becomes important in creating brand associations (Kelly et al., 1983). The associations can become stronger when they are based on many experiences or exposures to communications rather than a few (Alba & Hutchinson, 1987). It has also been suggested that direct experience may create stronger associations in memory, given its inher-

ent self-relevance (Hertel, 1982). Thus we hypothesize that:

**Hypothesis 2b:** *Brand association is positively related to consumers' perception of the closeness of their relationship with the business owning the brand (relationship closeness).*

The focus of brand loyalty has been put on loyalty with respect to tangible goods, but few studies have looked at customer loyalty in services (Oliver, 1997). Service loyalty represents the degree to which a customer exhibits repeat purchasing behavior from a service provider (Gremler & Brown, 1998). It is proposed that close customer relationships should have a positive influence on retaining and satisfying the loyal consumers who show more favorable responses to a brand than non-loyal or switching consumers do (Grover & Srinivasan, 1992; Barnes, 1997; Barnes & Howlett, 1998).

**Hypothesis 2c:** *Brand loyalty is positively related to consumers' perception of the closeness of their relationship with the business owning the brand (relationship closeness).*

The strength of the customer relationship depends on the relative contribution of the emotional and functional value created by the company and brand in the mind of the customer, the extent to which that company or brand is viewed by the customer as a partner (Fournier, 1998). Through measuring the intensity of relationships in marketing, one implication of relationship strength is that strong, deep, and intense relationships are less vulnerable and more likely to continue into the future (Lehtinen et al., 1994). Similarly, these variables have been proposed as indicators of the strength of a relationship that a customer has with his or her primary financial services provider (Berscheid et al., 1989b). Therefore, we hypothesize that:

**Hypothesis 2d:** *Perceived quality is positively related to consumers' perception of the strength*

*of their relationship with the business owning the brand (relationship strength).*

Brand associations usually arise on the basis of direct experience with the product or service. They can also be enhanced by information about the product or service communicated by the company, other sources, or word of mouth (Kelly, 1993). Such information from both direct and indirect experiences, by forming episodic memory traces (Tulving, 1983), can be especially important for user and image attribute associations. The increased value results mostly from the reduction of the sacrifices customers must make to collect information and improve their psychological security about the company and brand. Accordingly, it is proposed that:

**Hypothesis 2e:** *Brand association is positively related to consumers' perception of the strength of their relationship with the business owning the brand (relationship strength).*

Brand loyalty as a basis of brand equity is influenced by a number of factors, the major one being the usage experience (Aaker, 1991). Loyalty is influenced in part by awareness, associations, and perceived quality. Service loyalty presents the degree to which a customer exhibits repeat purchasing behavior from a service provider, possesses a positive attitudinal disposition toward the provider, and considers using only this provider when a need for this service comes up (Gremler & Brown, 1998). Customers with strong relationships are less likely to be uncertain about the value they are receiving from a bank (Barnes, 1997), which may explain and influence brand loyalty. Hence, we hypothesize that:

**Hypothesis 2f:** *Brand loyalty is positively related to consumers' perception of the strength of their relationship with the business owning the brand (relationship strength).*

If value has not been created for the customer, there is no possibility that he/she will be satis-

fied to the point where a relationship might emerge. There are many ways in which a company creates value for its customers (Barnes, 2001). Functional value is related to the company's or brand's ability to be convenient, accessible, and easy to use, as well as its ability to save the customer time and money. Emotional value is created through interaction between the customer and the company (and its staff), and by raising the extent to which they make the customer feel important, valued, or special. Consumer satisfaction is summing up affective responses of varying intensity within a particular time and with limited duration, with reference to product acquisition and/or consumption (Giese & Cote, 2000). Researchers have investigated the notion of customer satisfaction (Bitner, 1995; Fournier & Mick, 1999), and argued that satisfaction is demonstrated at multiple levels within and during the service encounter (Gabbott & Hogg, 1998). Due to the complexity of services, and the interface between the very service and the staff providing it, satisfaction can evolve over the course of the service provision. Moreover, customers may feel personally involved in the success or failure of the outcome of services (Zeithaml, 1981), as they may participate in the service design and provision. Gabbott and Hogg (1998) suggest that the process of evaluating services in terms of satisfaction can be seen as a shared responsibility between provider and consumer. The association between service quality and customer satisfaction has emerged as a topic of significant and strategic concern (Cronin & Taylor, 1992). Additionally, research on the association between service quality and customer satisfaction suggests that service quality is an important indicator of customer satisfaction (Spreng & Mackoy, 1996). Hence, it is hypothesized that:

**Hypothesis 2g:** *Perceived quality is positively related to consumers' perception of the degree of satisfaction of their relationship with the business owning the brand (relationship satisfaction).*

Satisfying customer relationships with the company could help in relating the associations of the brand to special events, places, or people, which are involved in particular meanings and occupy a special place in customers' lives. When a customer feels satisfied with the relationships with his or her bank, it would be easy to connect his or her pleasant experiences or memory with favorable associations. Therefore, it is proposed that the satisfaction of the customer relationship with the financial services supplier will positively influence brand associations.

**Hypothesis 2h:** *Brand association is positively related to consumers' perception of the degree of satisfaction of their relationship with the business owning the brand (relationship satisfaction).*

As a customer feels satisfied with the relationship with the financial services supplier, he or she would be more likely to exhibit repeat purchasing behavior from a service provider, have positive attitudes toward the provider, and give preference to this provider; thus, the customer may present his or her loyalty to the company and brand (Gremler & Brown, 1998). Furthermore, Barnes (1997) suggests that the most satisfied bank customers are also those who have been dealing with the bank the longest. In addition, Lassar et al. (2000) provide support for the contention that customer satisfaction influences service loyalty. Therefore, one can hypothesize that:

**Hypothesis 2i:** *Brand loyalty is positively related to consumer's perception of the degree of satisfaction of their relationship with the business owning the brand (relationship satisfaction).*

The increasing interest in building brand equity creates the need to better understand how brand equity is built and maintained. Some authors have stressed that rather than being solely created by marketing communications or marketing mix, brand equity is developed by an entire

organization (Aaker, 1997; Schreuer, 1998). The convergence between relationship marketing and branding, and the close linkages between the rationale for relationship marketing and that for branding, suggest that branding and relationship marketing are interdependent, and could possibly be seen as two stages of the same process (Dall'Olmo Riley & de Chernatony, 2000). Therefore, it is proposed that:

**Hypothesis 3a:** *Brand equity is positively and indirectly related to relationship closeness.*

**Hypothesis 3b:** *Brand equity is positively and indirectly related to relationship strength.*

**Hypothesis 3c:** *Brand equity is positively and indirectly related to relationship satisfaction.*

## METHODOLOGY

The study was initiated by a pre-test in which forty respondents, including bank employees and customers, provided feedback on the questionnaire's content, wording, sequence, format, layout, question difficulty, and instructions. A consumer panel from a market research company in Beijing, China, was chosen as the sampling frame. According to the Almanac of China's Finance and Banking (2004), the competitors in Chinese retail banking services industry can be categorized into three types: state-owned banks; foreign banks; and shareholding commercial banks. Respondents were allocated to their bank group preferences. The data collection took place over three months in the summer of 2007. The sample was constructed of 849 responses; 48% of the respondents were men and 52% were women.

## RESULTS

### *Results of Measurement Model*

Reliability analysis examines the homogeneity or cohesion of the items that comprise each scale, and Cronbach's alpha coefficients reflect

the average correlation among the items that constitute a scale (Ntoumanis, 2001). The values of the alpha coefficient below 0.70 are unreliable (Nunnally & Bernstein, 1994). The values of all constructs are above the suggested threshold, with a minimum of 0.93 (see Table 1). Since the composite reliability, and internal consistency reliability measure are evidence of convergent validity computed from LISREL 8, all factor loadings were significant with strong evidence of convergent validity.

The standardized factor loadings for all items were above the suggested cut off level of 0.60 (Hatcher, 1994), ranging from 0.87 to 0.98. Thus, 36 items were retained for the 7 constructs: 7 for relationship closeness; 5 for relationship strength; 6 for relationship satisfaction; 6 for perceived quality; 6 for brand awareness/associations; 3 for brand loyalty; and 3 for overall brand equity. A complementary measure of composite reliability is the average variance extracted (AVE). This directly shows the amount of variance that is captured by the construct in relation to the amount of variance due to measurement error. AVE values less than 0.50 indicate that measurement error accounts for a greater amount of variance in the indicators than does the underlying latent variable, and hence doubts can be raised regarding the soundness of the indicators or the latent variable itself (Diamantopoulos & Siguaw, 2000). The AVE ( $\rho_v$ ) of each construct in the model ranged from 0.80 to 0.95, exceeding the acceptable level of 0.50, which guarantees that more valid variance is explained than error (Fornell & Larcker, 1981).

Finally, the constructs should also show high discriminant validity. According to Fornell and Larcker (1981), this can be demonstrated by the fact that the square root of the AVE of each construct should be generally higher than the correlations between it and any other constructs in the model (see Table 2 below), which simultaneously illustrates that the constructs are both conceptually and empirically distinct from each other.

Table 1. Operational Measures and Scale Reliability Values

Constructs and Items	Standard Loading	t-value
Relationship closeness ( $\alpha = .96$ ; VE = .80)		
RC1 I rely on My Bank to offer me good financial services.	0.88	32.46
RC2 I have the feeling that My Bank really cares about me.	0.91	34.52
RC3 I think My Bank and I are familiar with each other.	0.91	34.62
RC4 I like the way I am treated by My Bank.	0.91	34.57
RC5 The staff at My Bank are very friendly toward to me.	0.87	31.72
RC6 I feel the relationship between My Bank and me is kept close.	0.90	33.56
RC7 It would be important for me to support My Bank.	0.88	32.70
Relationship strength ( $\alpha = .93$ ; VE = .80)		
RST1 I give a higher share of my banking business to My Bank compared to other banks.	0.90	33.47
RST2 I would like to continue to do my banking business with My Bank.	0.88	32.36
RST3 Moving my business to another bank is just not worth the effort.	0.89	33.21
RST4 I could probably get better services at another bank. (Reverse-coded)	0.87	31.61
RST5 I would like to recommend My Bank to others.	0.92	35.15
Relationship satisfaction ( $\alpha = .95$ ; VE = .82)		
RSA1 I feel satisfied with the relationship with My Bank.	0.89	33.13
RSA2 The relationship between My Bank and me would make me feel welcome.	0.88	32.70
RSA3 The relationship between My Bank and me would make me feel comfortable.	0.93	35.65
RSA4 The relationship between My Bank and me would make me feel relaxed.	0.92	34.83
RSA5 The relationship between My Bank and me would give me pleasure.	0.92	34.91
RSA6 I deal with My Bank because I want to, not because I have to.	0.91	34.44
Perceived quality ( $\alpha = .96$ ; VE = .84)		
PQ1 The financial products and services offered by My Bank are high quality.	0.91	43.73
PQ2 The likelihood that the financial products and services offered by My Bank would be functional is very high.	0.93	48.15
PQ3 The likelihood that the financial products and services offered by My Bank are reliable is very high.	0.93	46.98
PQ4 My Bank always delivers superior financial products and services.	0.92	46.55
PQ5 The brand of My Bank must be of very good quality.	0.93	46.92
PQ6 The brand of My Bank appears to be of poor quality. (Reverse-coded)	0.87	39.74

Brand associations with brand awareness ( $\alpha = .96$ ; VE = .86)		
BA1 I know what financial offerings provided by My Bank would be.	0.92	47.88
BA2 I am aware of the brand of My Bank.	0.93	49.04
BA3 I can recognize My Bank among other competing brands of banks.	0.92	48.09
BA4 Some characteristics of the brand of My Bank come to my mind quickly.	0.91	45.66
BA5 I can quickly recall the symbol or logo of My Bank.	0.93	50.42
BA6 I have difficulty in imagining My Bank in my mind. (Reverse-coded)	0.94	51.96
Brand loyalty ( $\alpha = .97$ ; VE = .95)		
BL1 I feel myself to be loyal to My Bank.	0.97	82.12
BL2 My Bank would be my first choice when I have personal banking needs.	0.98	86.64
BL3 Even with more choices, I will not purchase other brands of banks if My Bank is available.	0.98	88.79
Overall brand equity ( $\alpha = .94$ ; VE = .91)		
OBE1 If another brand has the same features as My Bank, I would prefer to choose My Bank.	0.97	80.06
OBE2 If there is another brand as good as My Bank, I prefer to choose My Bank.	0.93	62.22
OBE3 If another bank is not different from My Bank in any way, it seems smarter to choose My Bank.	0.96	72.07

Table 2. Correlation Matrix and Square Roots of Average Variance Extracted

Construct	1	2	3	4	5	6	7
1 Perceived quality	0.92						
2 Brand associations/ awareness	0.54	0.93					
3 Brand loyalty	0.76	0.54	0.97				
4 Overall brand equity	0.84	0.62	0.90	0.96			
5 Relationship closeness	0.70	0.54	0.64	0.71	0.89		
6 Relationship strength	0.58	0.62	0.59	0.64	0.59	0.89	
7 Relationship satisfaction	0.77	0.51	0.70	0.77	0.77	0.51	0.91

Note: Correlation coefficients are included in the lower triangle of the matrix and the square roots of AVE are on the diagonal

### Exploratory Factor Analysis

Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity

can be used to test the appropriateness of the factor analysis. When using the KMO, a high value (close to 1.0) generally indicates that a factor analysis may be useful with the data. If the



value is less than 0.50, the results of the factor analysis probably will not be very useful. In the Bartlett's test of sphericity, the result is based on the significance level. A very small value (less than 0.05) indicates that there are probably significant relationships among the original variables. Then, the null hypothesis that the variables are uncorrelated will be rejected. However, a value higher than 0.10 or so may indicate that the data are unsuitable for factor analysis. As reported in Table 3 below, the value of KMO measure is 0.975 and the significance value of Bartlett's test is 0.000 ( $< .05$ ). Therefore, both tests demonstrated that there are certain correlations among the original variables, and justify the use of factor analysis.

Table 3. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.975
Bartlett's Test of Sphericity	Approx. Chi-square	37657.361
	Sig.	0.000

Additionally, the principal component analysis was employed to reduce the original variables to the minimum number of factors that would account for maximum variance in the data (Malhotra, 1999). In total, seven factors were initially identified. Taken together, they explained 84.65% of the total variance. The results of this analysis confirmed that customer relationships and brand equity could be understood in terms of relationship closeness, strength, and satisfaction, as well as in terms of perceived quality, brand awareness/associations, and loyalty, respectively.

### Results of Structural Model

Structural equation modeling was employed to estimate parameters of the structural model, and completely standardized solutions, computed by the LISREL 8 maximum-likelihood method.

Results are reported in Table 4. Goodness-of-fit statistics, indicating the overall acceptability of the structural model analyzed, were acceptable ( $\chi^2_{(573)} = 6169.22$ ;  $NCP = 6932.25$ ). Goodness-of-Fit Index (GFI) and Adjusted Goodness-of-Fit Index (AGFI) were 0.87 and 0.82, respectively; comparative goodness-of-fit indexes were 0.87, 0.87, 0.88, and 0.88 in Normed Fit Index (NFI), Non-Normed Fit Index (NNFI), Comparative Fit Index (CFI), and Incremental Fit Index (IFI), respectively. Root Mean Square Error of Approximation (RMSEA) was 0.12, and Standard Root Mean Square Residual (SRMR) was 0.052. These indicated a reasonable level of fit of the model.

For our illustrative model, the signs of all parameters were consistent with the hypothesized relationship among the latent variables (see Table 4 below). Moreover, most path coefficients, except two of them, were significant ( $p < .05$ ). Finally, the squared multiple correlations for the four endogenous variables in the model were respectable: for  $\eta_1$  (Perceived quality),  $R^2 = 0.65$ ; for  $\eta_2$  (Brand associations/awareness),  $R^2 = 0.55$ ; for  $\eta_3$  (Brand loyalty),  $R^2 = 0.65$ ; and for  $\eta_4$  (Overall brand equity),  $R^2 = 0.96$ .

Perceived quality ( $H_{1a}$ ), brand loyalty ( $H_{1b}$ ), and brand associations with awareness ( $H_{1c}$ ) are significant dimensions of brand equity, which means brand equity is positively related to perceived quality, brand loyalty, and brand associations. The relationships of perceived quality ( $\beta_{41} = 0.19$ ,  $t$  value = 10.06) and associations ( $\beta_{42} = 0.09$ ,  $t$  value = 6.78) to brand equity were much weaker than the relationship of brand loyalty to brand equity ( $\beta_{43} = 0.71$ ,  $t$  value = 40.32). Consistent with previous conceptualizations (Swan et al., 1993; Yoo, et al., 2000), these findings show that the total value of a financial product or financial service can be decomposed into value due to brand attributes (i.e., product quality), and value due to the brand name (i.e., brand equity). Hence, perceived high product quality does not necessarily yield high brand equity.

When the correlation among the dimensions is specified in the structural model, the

Table 4. Structural Model Estimates <sup>a</sup>

<i>Hypothesized Relationship</i>	<i>Parameter</i>	<i>Estimate</i>	<i>t-value</i>
Relationships of dimensions of brand equity to brand equity			
$H_{1a}$ Perceived quality → overall brand equity (+) <sup>b</sup>	$\beta_{41}$	0.19	10.06
$H_{1b}$ Brand associations/awareness → overall brand equity (+)	$\beta_{42}$	0.09	6.78
$H_{1c}$ Brand loyalty → overall brand equity (+)	$\beta_{43}$	0.71	40.32
Relationships of constructs of customer relationships to dimensions of brand equity			
$H_{2a}$ Relationship closeness → perceived quality (+)	$\gamma_{11}$	0.16	4.03
$H_{2b}$ Relationship closeness → brand associations/awareness (+)	$\gamma_{21}$	0.11	2.32
$H_{2c}$ Relationship closeness → brand loyalty (+)	$\gamma_{31}$	0.03	0.70
$H_{2d}$ Relationship strength → perceived quality (+)	$\gamma_{12}$	0.21	7.44
$H_{2e}$ Relationship strength → brand associations/awareness (+)	$\gamma_{22}$	0.41	10.92
$H_{2f}$ Relationship strength → brand loyalty (+)	$\gamma_{32}$	0.17	5.18
$H_{2g}$ Relationship satisfaction → perceived quality (+)	$\gamma_{13}$	0.54	13.69
$H_{2h}$ Relationship satisfaction → brand associations/awareness(+)	$\gamma_{23}$	0.11	2.09
$H_{2i}$ Relationship satisfaction → brand loyalty (+)	$\gamma_{33}$	0.22	5.30
Relationships of constructs of customer relationships to brand equity			
$H_{3a}$ Relationship closeness → overall brand equity (+)	$\gamma_{41}$	0.04	2.18
$H_{3b}$ Relationship strength → overall brand equity (+)	$\gamma_{42}$	0.01	0.22
$H_{3c}$ Relationship satisfaction → overall brand equity (+)	$\gamma_{43}$	0.05	2.44

a. Completely standard estimates  
Hypothesized direction of effect

correlations between brand loyalty and perceived quality ( $\beta_{31} = 0.43$ ,  $t$  value = 11.08), and between brand loyalty and brand associations ( $\beta_{32} = 0.07$ ,  $t$  value = 2.39) are significant. Therefore, the other dimensions of brand equity, especially perceived quality, might influence brand equity by affecting brand loyalty first.

Empirical support was found for the relationship between the constructs of customer relationships and the dimensions of brand equity, as hypothesized by  $H_{2a}$  to  $H_{2i}$ . The relationship of closeness to brand loyalty ( $H_{2c}$ ) is weak and insignificant ( $t$  value = 0.70). The  $t$  values for all the other hypothesized paths ranged from 2.09 to 13.69. The weakest of the supported paths were relationship satisfaction to brand associations/awareness ( $\gamma_{23} = 0.11$ ,  $t$  value = 2.09), and relationship closeness to brand associations/awareness ( $\gamma_{21} = 0.11$ ,  $t$  value = 2.32). The

strongest of the supported paths was relationship satisfaction to perceived quality ( $\gamma_{13} = 0.54$ ,  $t$  value = 13.69). The absolute effect sizes of other paths ranged from 0.16 to 0.41.

$H_{2c}$  is not supported. However, despite no significant evidence of the direct influence of relationship closeness on brand loyalty, relationship closeness might exert an indirect influence on it by affecting perceived quality ( $\gamma_{11} = 0.16$ ,  $t$  value = 4.03) and brand associations ( $\gamma_{21} = 0.11$ ,  $t$  value = 2.32).

Additionally, insights into the relative impact of each construct of customer relationships on each dimension of brand equity can be gained by looking at the standardized parameter estimates relating to the structural equations (see Table 4). These are not affected by differences in the unit of measurement of independent latent variables, and therefore can be compared within equations.

In our structural model, among the constructs of customer relationships, relationship closeness had rather weak influence on the dimensions of brand equity, compared to the influence of relationship strength and relationship satisfaction. Furthermore, with both having influence on all dimensions of brand equity, relationship strength had more of an effect on brand associations/awareness ( $\gamma_{22} = 0.41$ ,  $t$  value = 10.92), while relationship satisfaction exerted more impact on perceived quality ( $\gamma_{13} = 0.54$ ,  $t$  value = 13.69).

### DISCUSSION AND MANAGERIAL IMPLICATIONS

The study shows that customer relationships are important in creating brand equity in the context of the Chinese banking sector. Applying marketing tactics, such as price reduction or promotion, to lure customers to deal with a bank, does not contribute to customers' sustained evaluation of the brand equity of a bank. For such customers, brand loyalty is difficult to strengthen as it is hard to establish strong brand equity in their minds, even though they might have perceived the effect of various marketing activities, e.g. price promotions or advertising campaigns. The banks currently providing services to these customers should realize the vulnerability of those relationships and take steps to address relationship levels of closeness, strength, and satisfaction before the customer is attracted by other service providers.

Relationship closeness, in this research, represents the aspects of a close relationship between the individual customer and the bank, characterized by interdependence, familiarity, and duration. From the consumers' perspective, closeness of relationship between the consumers and the bank, especially the familiarity resulting from interdependent and durable relationships, can provide a sense of safety. The importance of familiarity is particularly obvious when consumers are engaged in variety seeking, as the bank could provide assurance and so lower perceived

risk. From the bank's perspective, closeness of relationship could help integrate all kinds of information from the bank. Given the great variety of banking services providers from all over the world in the Chinese banking market, it is difficult for a consumer to evaluate and remember them all. The new financial products and services will be selective, and one of the crucial determinants in the choice scenario is information accessibility (Chattopadhyay & Nadungadi, 1992, Ghazizadeh et al., 2010).

Customers can become familiar with and close to their bank through advertising, word-of-mouth, and usage experience. Studies of the "exposure effect" have shown that affect toward a given object arises as a result of repeated stimulus exposure. When objectives are presented to an individual on repeated occasions, increased exposure is capable of making the individual's attitude toward the object more positive (Anand et al., 1988). When a customer keeps frequent contact with his or her financial services supplier, and has experienced long-time observation, the familiarity of the customer with the services and the bank can be entrenched in the customer's mindset, and influence the cognition of perceived quality of this bank, since familiarity is driven by the frequency and the depth of the interaction (Gremmler et al., 2001).

In service sectors, the perceived quality is influenced by the service staff and organization's image (Grönroos, 1984; 1990). Since bank staff could be the key factor in a creating close and interdependent relationship, staff training and relationship review by individual members of staff need to be included in customer relationship management measures.

The big banks in China, such as the state-owned ones, have an advantage of widespread network coverage, offering more opportunities for contact and communication with customers, so that a close relationship can be established and sustained. Internet and mobile telephone banking services can be of assistance to contact customers, offering alternative routes for customers to communicate with their banks, and avoiding di-

rect competition based on the number of bank branches. This communication tool has been applied by some small banks in China. Among those precursors, China Merchants Bank has been the most successful one and especially welcome by Chinese youngsters.

The findings of this study confirm that the quality of a given brand could be perceived differently, depending on the extent to which the bank makes its customers feel that their relationship with their bank is strong and deep.. The evidence shows that relationship strength has more influence on brand awareness/associations (0.41,  $t=10.92$ ) than relationship closeness and relationship satisfaction. They can be enhanced by information communicated by the bank about its products and services.

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## Cultural Differences in Globalization Perception among Younger Generations in the U.S., U.K., and India

Juan (Gloria) Meng  
Basil Janavaras  
Emanuel Gomes

**ABSTRACT.** The rapid growth of globalization suggests a need to understand how people perceive globalization, and to assess the extent of such perception. Building on the existing literature and field experiences, 26 instruments were developed to measure perceptions of globalization. Through an exploratory factor analysis on the younger generation in the U.S., nine items were deleted, and a four-dimension underlying structure emerged, which suggested that young people perceive globalization from: the Positive Effect of Globalization; the Negative Effect of Globalization; the Barriers Eliminated through Globalization; and Globalization Impact on Environment. In addition, a confirmatory factor analysis was conducted utilizing the LISREL 8.80 program. The four dimensions were confirmed to be stable, and the 19 items measuring these four dimensions tested as valid scales. Furthermore, utilizing the scales developed, this study compares and contrasts globalization perceptions of young generations among three different countries, the U.S., U.K., and India. Significant differences were found on all four dimensions of globalization perceptions. Theoretical, methodological, and potential managerial contributions were discussed as well.

**KEYWORDS.** Globalization, attitude, perception, dimensionality, culture, LISREL, United Kingdom, India

### INTRODUCTION

Globalization can be defined as the “closer integration of countries and peoples of the world, which has been brought about by the enormous reduction of transportation and communication costs, and the breaking down of artificial barriers affecting the flows of goods, services, capital, knowledge, and people across borders” (Stiglitz, 2002). Though this definition encompasses some

of the possible benefits derived from globalization, it cannot be taken for granted that people will necessarily have a positive attitude towards globalization. If economic growth, fellowship between different races, and appreciation for socio-cultural diversity are generally accepted as positive effects of globalization, other subsequent adjacent problems like environmental pollution, the increasing gap between rich and poor, threats of global terrorism, and more recently, the

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Juan (Gloria) Meng, Ph.D. and Basil Janavaras, Ph.D. are at Department of Marketing and International Business, College of Business, Minnesota State University, Mankato, Mankato, MN 56001, USA. Emanuel Gomes, Ph.D., is a Senior Lecturer, Strategy and Applied Management, Coventry University, Coventry, CV1 5FB, United Kingdom.

Address correspondence to Juan (Gloria) Meng, Department of Marketing and International Business, College of Business, Minnesota State University, 150 Morris Hall, Mankato, MN 56001, USA, E-mail: [juan.meng@mnsu.edu](mailto:juan.meng@mnsu.edu)

global economic crisis can also be viewed as its downsides. In this paper we understand attitudes towards globalization “as a respondent’s degree of favorability toward the phenomenon of worldwide integration resulting from a variety of activities including cross-border transactions across the factors of production” (Chattalas & Reyes, 2008).

The main contribution of this study is, therefore, methodological as we aim to create an instrument which can be used in future research to measure perceptions towards globalization. Such a tool could become particularly useful if applied to cross-sectional research in the areas of international business, international marketing, cross-cultural studies, and international politics. This is the case because people’s views towards globalization might, somehow, influence their attitudes towards international trade, FDI, emigration, politics, security and other socio-cultural aspects.

To this end we have defined three objectives. First, based on the existing globalization literature and field experiences, we set out using both qualitative and quantitative scale development methods to develop a set of scales that could be used for measuring attitudes towards globalization. Second, utilizing that new instrument, this study sought to discover the underlying structure and dimensions of globalization perceptions in the U.S., and subsequently test the model’s fit to confirm the underlying structure, reliability, and validity of the instruments. Third, utilizing the instruments developed and dimensions formed, globalization perceptions among young generations were compared across the U.S., U.K., and Indian cultures, to detect whether young people in different cultures hold different views on globalization.

## LITERATURE REVIEW

Globalization tends to eliminate national differences by joining together people of all nationalities through the exchange of products and services, information and technology, as well as culture. However, economic integration can result

in an unequal distribution of the benefits of globalization; yet, as of the turn of the century, 97% of World Trade Organization members were involved in at least one form of regional trade agreement (RTA). These modern RTAs tend to have a much wider network of participants but also have the tendency to fall within the sphere of influence of the European Union and the United States (Crawford & Laird, 2000). Critics argue that these inequalities generally come at the expense of developing countries, with developed countries gaining the larger proportion of benefits. In actuality, global trade grew by 80% between 1990 and 2000 and the total flow of foreign direct investment increased fivefold, while the world economy increased by a relatively small 23% (Bernstein, 2000). These statistics may suggest an overall benefit to globalization, but the allocation of those benefits is the subject of ongoing debate.

Most economists would argue that protectionism poses a threat to world economies; yet, the economic and financial distress of the 1990s decade, which experienced the 1994 Tequila, the 1997 Asian, and decade-ending Russian economic and financial crises, have caused many to reassess the pace of economic liberalization. Joseph Stiglitz claimed that the freer movement of capital, goods, and services across borders has actually contributed to the financial upheaval experienced by many of the developing countries. Rodrik (2002) did not argue that trade protection should be preferred to trade liberalization, but did suggest that fiscal and monetary institutions, by encouraging aggressive pro-growth policies, could contribute to economic instability. Martin and Rey (2006) argued that trade globalization would make financial crashes less likely, but financial globalization could make the crises more likely, especially when trade costs are high. They theorized that emerging markets are prone to crash when opening their financial markets, and suggested that emerging markets liberalize their trade account before their capital account.

According to Kohut and Wike (2008) globalization continues to be a divisive subject, and the



discrepancy in perceptions is evident from country to country. In relation to FDI and the increasing presence of multinational companies facilitated by globalization, people's opinions in western countries seem to be less positive than those in the developing world (Pew Global Attitudes Project Survey, 2007). Other empirical studies have documented that more favorable attitudes toward globalization are found among college students, and specifically, these more favorable attitudes are found in business majors and among those students with white-collar parents (Peng, 2001). Most Americans view globalization as positive for business, consumers, and the economy, but somewhat negative in terms of job security and environmental concerns. The magnitude of positive views appears to be falling. There is growing resentment towards the U.S. over its impact on globalization, both politically and economically. Particularly in Western countries, the percentage of individuals favoring tighter immigration restrictions to protect their way of life is 30 points higher than those who oppose such restrictions. There are also growing concerns over the environmental consequences of globalization (World Publics Welcome Global Trade – But Not Immigration, 2007). The Pew Global Attitudes Project Survey (2007) also provides evidence supporting the increasing concern over the negative impact of globalization on the environment. The increasing gap between rich and poor countries is another. The Program on International Policy Attitudes (PIPA), a joint program by the Center of Policy Attitude and the Center for International and Security Studies at the University of Maryland, asked a series of identical questions in 1999 and 2004, and noted a drop in favorable views. The German Marshall Fund also noted that a plurality of respondents held favorable views toward globalization, but the number expressing an 'extremely unfavorable view' was twice as large as the number expressing an 'extremely favorable' view (www.americans-org/digest). However, survey results are also driven by how the survey defines globalization. When globalization was defined as 'increasing

connectivity' surveys have found an increasingly favorable view on globalization over similar time periods (Pew Research Center, 2002; www.americans-world.org).

According to a recent (2004) survey conducted by Zogby International, 71% of Americans felt that the outsourcing of jobs hurt the U.S. economy, and 62% supported legislation that would restrict such practices. The majority of the respondents felt China poses the greatest threat. These results are in contrast to most economists, who view protectionism as a threat to global economic development. Further, while individuals may see globalization resulting in positive effects for the economy, business, and the consumer, attitudes concerning globalization's impact on the environment, domestic job creation, and security may be quite different (www.americans-world.org).

### *Globalization Attitudes of Britain, India, and United States*

Recent reports from the Pew Global Attitudes Project 2002-2009 show Indians to be very positive about the world economy and globalization (mostly urban surveyed). Their scores consistently outrank those of both Britain and the United States in all categories surveyed. Considering the trajectory of India's economic situation, in comparison to either Britain or the U.S., this is not surprising.

On the question, "Does the U.S. consider your country's interests?" India's position continued to increase over the period to a high of 81% approval. The U.S. position continued to drop to 59%, until resurgence in 2009 to 79%. Britain also had a continued decline to 24%, until resurgence in 2009 to 43%. Britain's overall opinion of U.S., though improved, stayed below a favorable level. The increase in 2009 of all three countries seemed to mirror the arrival of a new administration in the U.S. Time will tell if these numbers remain high (Pew Global Attitudes Project, 2002-2009).

None of the countries surveyed felt they were satisfied with their country's direction in refer-

ence to globalization over the time period surveyed, but India was consistently more positive than either the U.S. or Britain, with British satisfaction dropping to 21% in 2009 from 32% in 2002. India had a dramatic increase from 7% in 2002 to 53% in 2009. The United States' satisfaction dropped by only 5 points from the high of 41% in 2009 (Pew Global Attitudes Project, 2002-2009).

India's opinion of its country's economic situation began much lower than either Britain or the U.S. in 2002 at 39%, but continued to rise significantly higher than either country over the period, ending at 73%. Simultaneously, both British and U.S. satisfaction dropped dramatically to the teens over the same period. U.S. opinion began with 46% choosing the response "good" to represent their country's direction in reference to globalization in 2002, and ended with only 17% choosing this response in 2009. Britain began with 65% choosing the response "good" in 2002, and dropped to 11% in 2009. Britain's difference of 54% was the greatest decline of all three countries (Pew Global Attitudes Project, 2002-2009).

On the question, "Is trade a good or bad thing?" all countries surveyed continue to have a positive attitude toward trade, but with the U.S. consistently lagging behind both Britain and India over the period surveyed. But respondents in all three countries agreed that people are better off in a free market economy. India's approval on this subject grew substantially over the period studied (from 62% to 81%) while Britain's declined to 66% in 2009, and the U.S. improved to 76% in 2009 (Pew Global Attitudes Project, 2002-2009).

On the questions of satisfaction regarding household income, family life, job, and economic situation, India showed a consistently higher level of satisfaction over the period. In Britain and the U.S., there was no change in opinion, with the exception of the level of satisfaction over household income. This may be attributed to the recent world banking and financial crisis (Pew Global Attitudes, Project 2002-2009).

## RESEARCH OBJECTIVES

Although some efforts have been made to investigate the differences in perception of globalization across different cultures, as demonstrated above, the biggest drawback of such comparisons is the lack of an instrument for globalization perceptions, especially one which is accurate, valid, and equivalent across different cultures. The study presented here makes an effort to fill this gap.

More specifically, this study first attempts to develop an instrument which can be used to measure globalization perceptions across different cultures. The study then validates the instruments developed. Finally, utilizing the cross-culturally valid instrument, the study contributes to the comparison of the globalization perceptions across the U.S., U.K., and India.

## STUDY METHODOLOGY

### *Survey Instrument Development*

A two-page questionnaire was used in this study. The heart of the questionnaire was the 26-perception statements that were designed to measure people's perceptions of globalization. The questionnaire was developed after a thorough review of the existing literature, insights gained as a result of travelling and teaching experiences in different countries, and personal contacts and discussion on the topic of globalization with policy makers, other academics, and business practitioners over the past 30 years. The most prevalent factors affecting people's attitudes towards globalization, as reported by research and other media coverage, have been related to: economic growth and increasing inequalities between countries (Crawford & Laird, 2000; Bernstein, 2000); free trade and its relationship with potential global finance (Rodrik, 2002; Martin & Rey, 2006); the role and impact of multinational companies (Pew Global Attitudes Project Survey, 2007; Kohut & Wike, 2008); and job creation, security and environmental consequences of globalization (Albright

et al., 2007; Pew Global Attitudes Project Survey, 2007; www.americans-world.org).

The 26-perception statements in the instrument were phrased positively (see Appendix). The number “1” was used to indicate “strongly disagree” and the number “5” was used to indicate “strongly agree”. In addition, demographic information such as gender, age, school year, and major was collected.

Data was collected using a convenience sample of 639 business major students enrolled in a large comprehensive university in the Midwest of the U.S. The majority (94%) of participants were seniors, with majors in varied fields. The sample consisted of 60.7% male and 39.3% female respondents. Students were surveyed via a personal questionnaire, which was distributed to students by the lecturers at the end of the class and collected immediately upon completion.

Likewise, data was also collected from the U.K. and India using the same questionnaires. For the sake of comparability, surveys were only distributed among the business major students in both the U.K. and India. We received 109 completed surveys from Indian participants and 167 completed surveys from the U.K. participants. The sample characteristics were summarized in the table 1 below.

Table 1. Sample Characteristics among the U.S., U.K., and India

	U.S.	India	U.K.
Sample size	639	109	167
Gender (M vs. F)	60.7% vs. 39.3%	55.3% vs. 44.7%	52.4% vs. 47.6%

The choice of the U.S. and U.K. countries was based on the fact that these are two Western countries whose contribution towards the globalization process is widely recognised. Being countries with a close cultural background will also help test the correlation between the countries. The choice of India was made on the basis that it

represents one of the big emergent countries from Asia, with a more distant culture to that of the U.S. and the U.K. Obviously, access to data was also a major reason for this choice, though samples from other countries are being collected for future research.

### *Measures and Validation*

The U.S. sample was used to develop and validate the dimensions. The sample was split into half. The first half of the dataset was used to form the dimensions of globalization perceptions through factor analysis. Then the factor structure was confirmed through LISREL 8.80 using the other half of the dataset.

## ANALYSIS AND RESULTS

### *Analysis 1. Forming Dimensions of Globalization Perceptions*

#### Exploratory Factor Analysis of Globalization Perceptions

The factorability of the dataset was examined first on the first half of data collected, which contains 338 subjects. Most of the correlations among variables were around .30 or higher, which suggested a factorable result. In addition, the Bartlett test of sphericity was significant at 325 degrees of freedom ( $\chi^2 = 2796.43$ ,  $p < .01$ ), which also showed the presence of significant correlations among variables. Another index of the appropriateness of factor analysis is the Kaiser-Meyer-Olkin (KMO) measure of sample adequacy, which measures whether the distribution of values is adequate for conducting factor analysis. In this case, KMO was as high as .855, which was meritorious. Finally, the determinate (.000) was greater than .00001, which indicated a low multi-collinearity. Therefore, we concluded that it was appropriate to conduct a factor analysis on this dataset.

Oblique rotation was conducted in order to get a factor pattern with the minimum number of factors and the maximum variance explained. The component correlation matrix had shown that there were correlations among the factors

retained; therefore, an oblique rotation factor solution was used instead of the orthogonal rotation factor solution.

Originally five factors were formed. One of factors, named "Unbalance of Globalization", was deleted because this factor was measured by Q10 and Q11. These two questions have almost the same meaning but are worded in different ways. Moreover, the reliability of this factor is the lowest among all the factors (dimensions). In addition, by deleting this factor, the overall model fit improved significantly in the confirmatory factor analysis. Therefore, we decided on the four-factor structure. Nine items were deleted from the measurement model because all of them loaded equally on multiple factors. Eventually, 17 items were retained in the measurement model which explained 59.5% of total variance (see Table 2).

These 17 items consisted of four dimensions, which were labelled as follows. Dimension one was labelled Positive Effect of Globalization, dimension two was labelled Negative Effect of Globalization, dimension three was Barriers Eliminated through Globalization, and dimension four was labelled Globalization Impact on Environment. Cronbach's alpha for the four dimensions are .77, .80, .69, and .88, respectively, indicating suitable reliability as given in table 2.

More specifically, for the positive impacts of globalization dimension, globalization was perceived to benefit the U.S. workers, improve the U.S. image, facilitate foreign companies' investment to the U.S., and benefit the U.S. economy in general. In addition, globalization does not only benefit the U.S., but also benefits the whole world. This factor explains the largest portion of the variance among the four dimensions emerged, which is 29.09%. On the other hand, globalization was also perceived to have negative impacts, in terms of having fuelled terrorism and corruption, and created and increased the gap between developed and undeveloped countries through exploiting the natural resources and destabilizing the political stability of less developed

countries. This dimension explains 6.74% of the variance, which is the smallest portion among the four dimensions discovered here.

In addition, people also perceived that globalization eliminated barriers in terms of travel, communication, trade, and investment, which benefited U.S. consumers and multinational corporations by lowering the price on goods and services around the world. This dimension explains 9.08% of the variance. Finally, globalization was also perceived to have impacted on environment, especially with regard to global warming and environmental degradation. In fact, 13.83% of the variance was explained by this factor.

#### Confirmatory Factor Analysis of the Dimensions of Globalization Perception

A confirmatory factor analysis was conducted using the second half of data collected, which contains 301 subjects. The model fit was examined using LISREL 8.80. Three types of information were considered in assessing measurement fit: chi-square, measurement error (RMSEA = root-mean-square error of approximation and RMR = root mean-square residual), and fit indices (GFI = Goodness of Fit Index, CFI = Comparative Fit Index, IFI = Incremental Fit Index, NNFI = Non-Normed Fit Index, and NFI = Normed Fit Index).

The analysis indicated a Chi-square of 273.17 with 113 degrees of freedom was significant at  $p < .01$ . The fit indices were .93 for NNFI, .94 for IFI, and .94 for CFI, respectively, which suggested a good model fit. Additionally, the RMSEA was .06, and the RMR was .07, which were within an acceptable range. Thus, this model was accepted. These results suggested that the four dimensions of globalization perception do exist in people's minds. Moreover, instruments measuring each dimension were valid as well. Therefore, the measurement developed above can be used to compare the globalization perception of the U.S., U.K., and India.

Table 2. Dimensionality of Globalization

Factor	Label	Items	Loading	Reliability
1	Positive Effects of Globalization (29.09%)	1. Globalization has a positive impact on the overall growth of the U.S. economy.	.537	<b>.77</b>
		3. Globalization benefits U.S. workers and contributes to job creation in the U.S.	.809	
		5. Globalization encourages foreign companies to invest in the U.S.	.579	
		8. Globalization has contributed to the improvement of the U.S. image around the world.	.734	
		9. Globalization has benefited all countries around the world, although some countries may benefit more than others.	.615	
2	Negative Effects of Globalization (6.74%)	13. Globalization benefits workers around the world.	.655	<b>.80</b>
		17. Globalization has fuelled terrorism because of the economic disparities it has helped to create among poor countries.	.622	
		18. Globalization has contributed to the rise of corruption around the world.	.634	
		19. Globalization is used by developed nations in an attempt to exploit the natural resources of the less developed countries around the world.	.626	
		22. Globalization has contributed to increasing the economic gap between developed and other countries.	.638	
3	Globalization Eliminates All Kinds of Barriers (9.08%)	25. Having a destabilizing effect on the political stability of less developed countries and emerging markets.	.745	<b>.69</b>
		2. Globalization benefits U.S. consumers.	.564	
		6. Globalization enhances the profitability of U.S. based multinational corporations.	.690	
4	Globalization Impact on Environment (13.83%)	20. Globalization has contributed to the elimination of trade and investment barriers and the lowering of prices on goods and services around the world.	.786	<b>.88</b>
		21. Globalization has made travel and communications easier and more cost effective.	.731	
		15. Globalization has contributed to global warming.	.862	
		16. Globalization is responsible for environmental degradation.	.849	

Table 3. Differences in Globalization Perceptions among U.S., U.K., and Indian Cultures

	U.S.	India	U.K.	Sig.
Positive Effect	<b>3.24</b>	<b>3.89</b>	<b>3.25</b>	<b>.000<sup>***</sup></b>
Negative Effect	<b>3.11</b>	<b>3.28</b>	<b>3.10</b>	<b>.041<sup>**</sup></b>
Eliminates Barriers	<b>3.79</b>	<b>3.76</b>	<b>3.42</b>	<b>.000<sup>***</sup></b>
Impacts on Environment	<b>2.99</b>	<b>3.32</b>	<b>3.13</b>	<b>.005<sup>***</sup></b>

<sup>\*\*\*</sup> Significant at .01 level

<sup>\*\*</sup> Significant at .05 level

<sup>\*</sup> Significant at .10 level

### *Analysis 2. Globalization Comparisons Across Three Cultures*

#### *Comparison 1—ANOVA Test Among Three Cultures*

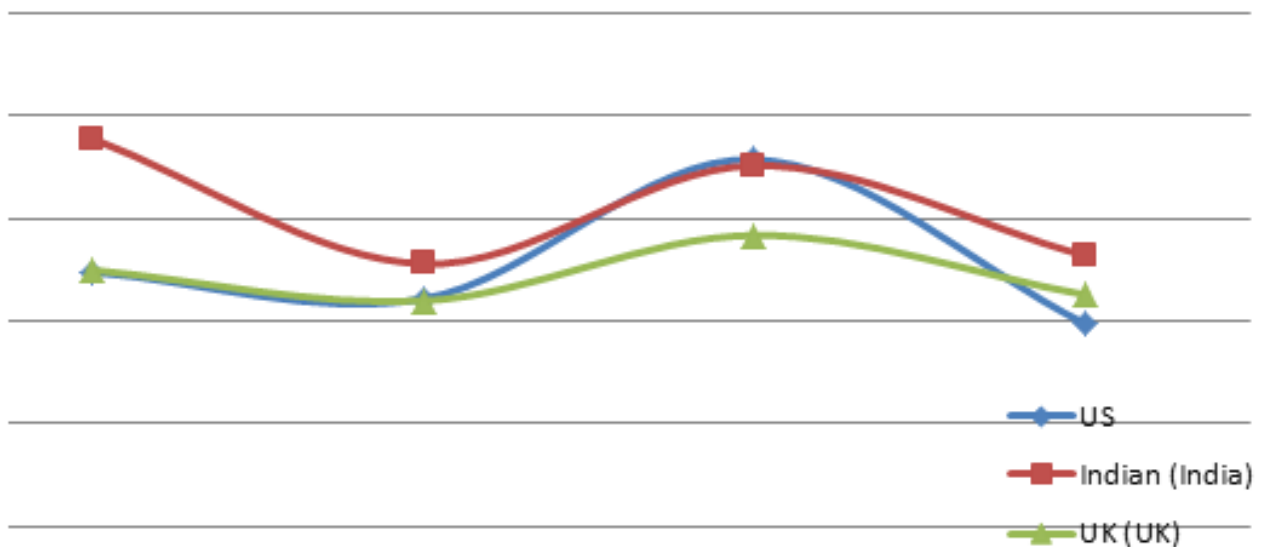
First, an ANOVA test was conducted among three cultures to see whether people in different cultures have a different perception of globalization. As indicated in Table 3 below, all four dimensions are significantly different among the three cultures tested. Moreover, the significance levels on the positive effects ( $p < .000$ ), barriers elimination ( $p < .000$ ), and impacts on environment ( $p = .005$ ) dimensions were at .001 level,

and the significance level on the negative effect ( $p = .041$ ) dimension was at .05 level.

More specifically, according to Figure 1 below, the Indians seem to have the highest perceptions on all the dimensions, except the dimension of barrier elimination. It means that the Indians have a rather extreme view on both positive effects and negative effects of globalization. In addition, the Indians also have the strongest beliefs among the three cultures that the globalization impacts on environment.

However, in order to empirically test the pair-wised comparisons between two cultures, it is necessary to conduct a group of t-tests. The results of the t-tests were discussed in Analysis 2.

Figure 1. Differences in Globalization Perceptions among the U.S., U.K., and Indian Cultures



*Comparison 2—Pair-Wised Comparisons Between Cultures Via T-tests*

Next, a group of t-tests were conducted pair-wised between two cultures, respectively.

**U.S. VS. INDIA**

As indicated in Table 4 below, Indians have significantly different perceptions on all the globalization perception dimensions, except the barriers elimination dimension. Moreover, according to the mean comparison, the Indians have significantly higher perceptions on the positive effect, negative effect, and impacts on environment dimensions than the Americans. The significant levels on these three dimensions were .000, .018, and .003, respectively, as the following table illustrates:

Table 4. Differences in Globalization Perceptions between the U.S. and Indian Cultures

	U.S.	India	Sig.
Positive Effect	3.24	3.89	.000***
Negative Effect	3.11	3.28	.018**
Eliminates Barriers	3.79	3.76	.673
Impacts on Environment	2.99	3.32	.003***
***	Significant at .01 level		
**	Significant at .05 level		
*	Significant at .10 level		

**U.K. VS. INDIA**

Likewise, when comparing the Indian culture with the U.K. culture, the differences on the globalization perceptions were even more significant. As showed in Table 5 below, all four dimensions were significant at .01 level, except that the impact on the environment dimension was significant at .10 level. Similarly, the Indians have consistently higher perceptions on all the dimensions than the British.

Table 5. Differences in Globalization Perceptions between the U.K. and Indian Cultures

	U.K.	India	Sig.
Positive Effect	3.25	3.89	.000***
Negative Effect	3.10	3.28	.000***
Eliminates Barriers	3.42	3.76	.000***
Impacts on Environment	3.13	3.32	.091*
***	Significant at .01 level		
**	Significant at .05 level		
*	Significant at .10 level		

**U.S. VS. U.K.**

On the other hand, Americans seem to have relatively similar views on globalization compared with Britain. The significant difference was detected on the barriers elimination dimension only (p.<.000), which means that Americans have a stronger belief that globalization eliminates the barriers among countries.

Table 6. Differences in Globalization Perceptions between the U.S. and U.K. Cultures

	U.S.	U.K.	Sig.
Positive Effect	3.24	3.25	.831
Negative Effect	3.11	3.10	.871
Eliminates Barriers	3.79	3.42	.000***
Impacts on Environment	2.99	3.13	.120
***	Significant at .01 level		
**	Significant at .05 level		
*	Significant at .10 level		

**CONCLUSIONS**

This is arguably the first study to discover the underlying structure of globalization perceptions, empirically confirm the factor structure, and test

the reliability and validity of the instruments. More specifically, this study fulfilled the three objectives presented earlier. First, this study came up with 26 items measuring globalization perceptions. Second, this study discovered and confirmed the underlying structure of globalization perceptions with four dimensions. It suggested 17 out of 26 items to be the valid instruments measuring globalization perceptions. Third, utilizing the instruments developed and the dimensions formed, the younger generations' globalization perceptions were compared across the U.S., U.K., and Indian cultures. The differences were found on all four dimensions of globalization perceptions among three cultures tested.

This research has made theoretical contributions to the existing international business literature on globalization perceptions using new research methodologies. It also provides managerial insights for practitioners who deal with international business related issues.

First, this study made significant theoretical contributions to the growing body of international business literature on globalization perception issues. It has expanded our knowledge and deepened our understanding of globalization perceptions. Globalization is not an abstract concept any more, and it became a more concrete construct with four dimensions.

Methodologically, based on the existing literature and experience, this research came up with instruments which measure the dimensionalized globalization perception, and empirically tested the reliability and validity of these instruments. This made a significant contribution to the globalization research in particular, and international business research in general, as globalization became a measurable construct instead of an abstract concept. This measurable construct made a great deal of future research possible, such as the antecedents and consequences of globalization.

Practically, since significant differences were found on all dimensions of globalization perceptions among three cultures tested, it provides references in varied issues, such as international

relationship, import/export practice, international marketing, brand image building across cultures.

## LIMITATIONS AND FUTURE RESEARCH

This study is a starting point since it only analyses data obtained from three countries: the U.S., U.K., and India. Therefore, to increase the generalizability of these findings to other countries, it would be essential that more surveys are undertaken in various other countries, so that more robust evidence could support the assertion that attitudes towards globalization are directly related to national cultural differences. To this end, we are continuing our data collection in the U.K., India, and in various other countries in different parts of the world.

Evidence provided by Hainmueller and Hiscox's (2006) research shows "that more educated respondents tend to be more exposed to economic ideas about the overall efficiency gains for the national economy associated with greater trade openness and tend to be less prone to nationalist and antiforeigner sentiments often linked with protectionism" (p. 470). Therefore, further efforts are needed to generate general instruments for measuring globalization perceptions that are valid across these factors.

Future studies should also consider how those dimensions of globalization perception influence people's attitudes toward foreign products and international business. These will certainly provide useful managerial applications, and will enable multinational firms to better understand how to globalize their international operations in an increasingly global market. Understanding people's inclination or resistance towards foreign goods, partners, values, and cultures, will certainly better inform international business decisions, and enable transferable cross-border management practices.

In this respect, it would be important to find out if people in countries with a specific attitude towards globalisation would accept the entry of global companies and brands, or if, due to high levels of resistance, a localization of brands and



companies would be required through the use of joint-ventures and alliances with local domestic companies.

### Acknowledgements

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## Appendix A. Questionnaire

Label	Questions
G1	1. Globalization has a positive impact on the overall growth of the U.S. economy.
G2	2. Globalization benefits U.S. consumers.
G3	3. Globalization benefits U.S. workers and contributes to job creation in the U.S.
G4	4. Globalization encourages U.S. firms to invest in foreign countries.
G5	5. Globalization encourages foreign companies to invest in the U.S.
G6	6. Globalization enhances the profitability of U.S. based multinational corporations.
G7	7. Globalization enhances the profitability of foreign companies operating in the U.S.
G8	8. Globalization has contributed to the improvement of the U.S. image around the world.
G9	9. Globalization has benefited all countries around the world, although some countries may benefit more than others.
G10	10. Globalization is more beneficial to the more developed countries.
G11	11. Globalization is more beneficial to the less developed countries.
G12	12. Globalization benefits consumers around the world.
G13	13. Globalization benefits workers around the world.
G14	14. The overall negative consequences of globalization outweigh the overall benefits of globalization.
G15	15. Globalization has contributed to global warming.
G16	16. Globalization is responsible for environmental degradation.
G17	17. Globalization has fuelled terrorism because of the economic disparities it has helped to create among poor countries.
G18	18. Globalization has contributed to the rise of corruption around the world.
G19	19. Globalization is used by developed nations in an attempt to exploit the natural resources of the less developed countries around the world.
G20	20. Globalization has contributed to the elimination of trade and investment barriers and the lowering of prices on goods and services around the world.
G21	21. Globalization has made travel and communications easier and more cost effective.
G22	22. Globalization has contributed to increasing the economic gap between developed and other countries.
G23	23. Efforts should be made and appropriate measures should be taken by the nations' governments to stop the globalization process from spreading any further in the future.
G24	24. The process of globalization is here to stay for the years to come.
G25	25. Having a destabilizing effect on the political stability of less developed countries and emerging markets.
G26	26. The recurrent protests against globalization are justified.

# JOURNAL OF EUROMARKETING

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- a) Functional areas of marketing in Europe and comparison with the practices of those in other regions.
- b) The dynamics that account for the linkage of European national markets into markets of the developing world, North and Latin America, the Far East and Africa.
- c) Determine the best methods available for marketing goods and services in different socio-economic, demographic, cultural, competitive, and legal-political environments of Europe at national and regional levels.
- d) The method by which European marketing institutions are linked together into viable and coherent business systems.
- e) The type of environmental factors prevailing in different European countries of the region which force changes in the marketing structure of the area countries and industrial sectors
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- Transfer of Marketing Technology and Reverse Technology Transfer in Europe
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- Legal-Political Aspects of Marketing in Europe
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