

EXPORT MARKETING AND THE WORLD WIDE WEB: PERCEPTIONS OF EXPORT BARRIERS AMONG TIRUPUR KNITWEAR APPAREL EXPORTERS - AN EMPIRICAL ANALYSIS

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ABSTRACT

The use of Web for export marketing normally enables firms to leapfrog the conventional stages by removing a number of barriers associated with exporting. This study investigates the impact of Web presence on the perception of export barriers among Tirupur knitwear apparel exporters, Indian bricks and mortar manufacturing small firms. A mail survey was conducted among 950 active exporters with 13.6 % response rate. The psychological barriers are found to be the biggest barrier to their export activities. Their overall perception of export barriers decreases significantly with their advancement in the business growth stage, and not with their company's age. However, in the company age group of less than 10 years, exporters with Web presence significantly differ in their perception from other exporters. Even though a number of patterns are observed, in the other age group and at all the business growth stages the differences in their perception of export barriers remain insignificant. It is concluded that the functionalities of these exporters' Websites are of primitive in nature and not being effectively exploited.

Keywords: Electronic Commerce Adoption; Small Businesses; Export Marketing; Export Barriers; Web Presence

1. Introduction

The Internet, the massive network of interconnected packet switched computer networks, is a general-purpose global communication and information system. The Internet has revolutionized the pattern of human society (Biswas and Kumar, 2004). But the emergence of World Wide Web (Web) has created the most interest in the business world.

The Internet has become a central fact of life for export firms. For a number of years, the Internet has provided a vehicle by which firms can communicate with those outside the company using electronic mail and has provided a rich source of information that firms can tap to help in fulfilling their business functions (Stallings, 2003). Stansfield and Grant (2003) investigated into the impact of government policy on Internet connectivity and adoption among small and medium businesses. Clarke (2002) found that even after controlling for self-selectivity bias and for factors that might affect both export performance and Internet connectivity, firms with Internet access exported more than similar firms and Internet access affected industrial and service enterprises to similar degree.

The recent changes in market conditions like increased globalization, competition, customer awareness, changing demographic factors, etc., have forced the business firms towards doing business over the Internet (Chakraborty and Ajoy, 2004). Now many firms do business over the Internet, mainly through the use of Web. Web provides the functionality necessary for online businesses. Technically and commercially, the Web client-server model becomes a dominant technology (Kalakota and Whinston, 1996). Kettinger and Hackbarth (2004) found that a small firm's capacity to perceive benefits had the strongest influence on the degree of integration of its electronic commerce networking into the sales process. Whether it is dealing with suppliers or corporate buyers, or individual consumers, the Web provides a great opportunity to expand export business.

1.1. The Web and Export Marketing

The export firms traditionally adopt export marketing through an evolutionary series of sequential stages (Anderson, 1993; Calof and Beamish, 1995). The use of the Web for export marketing enables export firms to leapfrog the conventional stages, as it removes all geographical constraints, permits the instant establishment of virtual branches throughout the world, and allows direct and immediate foreign market entry to the smallest of businesses. Roger Bennett (1997) envisages that the conventional model of obtaining export orders by information

seeping out of a firm through formal and informal contacts with buyers, suppliers and like is not particularly relevant in the present Web era. And customers care little about the physical size or remoteness of a supplier, provided high quality products at fair prices are delivered (Maloff, 1995). The availability of the Web removes at a single stroke a number of the organizational and resource constraints supposedly associated with exporting.

1.2. The Web and Export Barriers

A substantial literature exists regarding the extent and importance of various export barriers (Bilky, 1978; Bauerschmidt et al., 1985; Kedia and Chokar, 1986; Dicht et al., 1990). Sharkey et al. (1989) empirically related the perception of export barriers to the stage of export development and reported marginal exporters perceived more barriers than active exporters in procedural and technical complexity and strategic limitation. Leonidou (1995a) offers a comprehensive review of further relevant empirical studies.

The export barriers are classified into four major categories (Hamill and Gregory, 1997). The Psychological barriers concern perceptions of high cost and excessive risk, short-term perspectives, ethnocentric orientation, and similar variables. The Operational barriers include mundane paperwork, delays in payment, etc. The Organizational barriers arise from resource constraints, lack of knowledge of foreign market and restricted experience of international activities. The Product and Market barriers relate to country selection decisions, the need to modify outputs and tariff and non-tariff restrictions. The Psychic Distance is another set of export barriers that concerns about ignorance of foreign market, need to conduct research, and foreign representative difficulties.

The other specific barriers cited in the literature include transport problems, lack of exposure to foreign culture, lack of skilled personal, etc. Leonidou's (1995b) survey of 112 businesses reveals that fear of intense competition in foreign market and thereby obtaining a favorable order is the biggest obstacle to export activities.

It is expected that the use of the Web considerably lessen these barriers to export. A company's Web site offers information about the firm and its products and communicates with all the world's market simultaneously, regardless of economic, cultural and commercial differences. The real time information sharing between business partners favourably influence the risk perception. The Web on the Internet represents a many-to-many communication system where the consumer is an active participant in an interactive exercise of multiple feedback loops and highly synchronous communication (Hoffman and Novak, 1996). Roger Bennett (1997) suggests that the use of Web for export marketing might be improving information flow and reducing the costs of information collection and transmission to such an extent that some of the fundamental reasons for the slow, gradual and "evolutionary" internationalization of companies are no longer relevant in the modern business world.

1.3. Web site development and Electronic Commerce capabilities

Firms benefit from the Internet when they integrate electronic commerce capabilities and information and communication technologies infrastructure. Electronic commerce capabilities reflect a firm's strategic initiatives to use the Internet to share information, facilitate transactions, improve customer service and strengthen supplier integration (Zhu and Kraemer, 2002).

As the firm's Web site serves as a gateway for dealing with customers and business partners, electronic commerce capabilities should be reflected in the functionalities of Web site. Mishina (1998) found that the firms' Web site functionalities were significantly different even within the same industry. The sophistication and complexity of the firm's Web site reflect the strategic priorities of the firm (Angehrn, 1997). Kowtha and Choon (2001) studied the relationship between organizational size, competencies, competitive intensity, strategic commitment and Web site development. They found that the larger firms exhibited more commitment and the strategic commitment in turn had a positive effect on the level of Web site development. They concluded that the investigation of the relationship between strategy, Web site development and performance could produce more conclusive statement about the strategic importance of Web site.

The global reach of the Web along with the range of services that it supports makes it a powerful business resource (Chen and Meixel, 2003). Lal (2002) captured the important role played by the type of e-business technology adopted namely e-mail, Web presence with limited electronic commerce capabilities, and Web presence with complete electronic commerce capabilities in influencing the firms export performance. Hornby et al. (2002) found that Australian exporters using Internet perceived export barriers to be lower than a similar group of exporters in U.K. (Roger Bennet, 1997) and had high rate of Web site adoption.

The present research study has been conducted to assess the impact of Web on perception of export barriers among Tirupur knitwear apparel exporters, the traditional Indian manufacturing and exporting small businesses. The integration with foreign business partners has already led all these small businesses to connect to the Internet for communication (e-mail) purpose (Vivekanandan and Rajendran, 2005a). It is observed that the Web pages of majority of these firms are essentially static media and their rate of adoption of the further stages of electronic commerce namely online purchase and online sales is not in pace with that of Web presence. As the strategic planning in small businesses is incremental in nature (Mintzberg, 1988), the demonstration of the beneficial

characteristics of adopters of Web presence will enable the small businesses to move forward in the electronic commerce development.

2. Tirupur, the town of export excellence

Tirupur, the town of export excellence can deliver customized knitwear garments samples in less than 12 hours; half a million pieces in a matter of day (Source: AEPC, Tirupur). The first hosiery factory with hand-operated machines was setup in 1935. In the early 1980's, the transformation of Tirupur from domestic market to international market has taken place. The export of knitwear garment gained momentum from 1985 onwards due to the fact that most of western countries disbanding their garment manufacturing due to pollution and high cost of labour and concurrently, the Asian tigers Japan, Hong Kong, Taiwan and South Korea started moving to high tech areas. The other concomitance changes reported by Subramaniam (2005) are (i) their share in domestic market declined with the growth of hosiery industry in other parts of the country, (ii) the second generation entrepreneurs were ambitious and boldly ventured into international business, and (iii) a number of modern spinning mills specializing in producing high quality hosiery yarn came into existence in their region.

With a beginning of INR (Indian Rupees) 0.19 billion in the year 1985, exports of knitwear from Tirupur rose to INR 37 billion during the year 2003 (Source: AEPC, Tirupur). With this impressive growth over the period of two decades, Tirupur emerged as the country's biggest knitwear export center. The main reasons for the phenomenal growth are ready availability of raw materials, cheap rural labour, strong entrepreneur élan and innovativeness in technical and managerial approaches. The Indian government extends the support with various export promotion schemes.

2.1. Business practices of Tirupur Knitwear Apparel Exporters

The pattern of growth of the industry reveals the business philosophy adopted at the different growth stages. In the initial stages, the firms being tiny and small-scale enterprises with very low capital base did not have the resources to set up wet process facilities. With the emergence of the factories that provided the wet process services, the industry got divided into two segments, one segment having knitting and garmenting facilities and the other having wet processing facilities. The industry got further divided into a number of segments each concentrating in a single processing / manufacturing activity namely, knitting, bleaching, dyeing, mercerizing, compacting, raising, printing, embroidery, and etc. As expanding and modernizing one activity were within their financial limits and there was no need for developing expertise in product marketing, over the time these small-scale enterprises gained expertise in that activity. These distributed specialized production outsourcing facilities enabled those who had the core competence in export marketing concentrate on marketing and expand export business operations even with limited in-house production facilities.

This "flexible specialization" fueled the growth of the industry (Subramaniam, 2005) and its outstanding performance gained recognition and reputation in international market as a reliable supplier of quality knitwear apparel at competitive prices. From 1995 onwards, the firms started participating in the global apparel production network. Their integration into global supply chain of a number of international brands necessitated the setting up of exclusive production facilities of international standards with world-class business practices. This has presently resulted in huge in-house production facilities with flexible specialization slowly losing ground. Subramaniam (2005) reveals that the social capital is the hidden dimension of the fast growth of the industry and one of the lessons learnt by the industry association is that the leadership, sharing of responsibilities, trust and cooperation are essential ingredients of responsive, proactive and successful association.

3. Methodology

3.1. Research design

The present research study has been designed with the aim of providing empirical evidence that suggests the manner in which the export barriers are perceived among Tirupur knitwear apparel exporters and reveals characteristics and experience of the exporters who possess the Web sites. The literature shows that the pattern of perception on the severity of various export barriers is influenced by export development. Considering the age, number of years of existence of organization and the growth stage, effectiveness of that existence, as the indicators to the extent of export development, to eliminate their influence, the perception on export barriers are independently analyzed at different age groups and at different business growth stages.

3.2. Instrumentation and data collection

The Apparel Export Promotion Council (AEPC) sponsored by the Government of India, Ministry of Textile, was setup in 1978 and is registered under section 25 of the Company Act, 1956. The main objectives of the council are promoting and regulating the export of readymade garments to various international markets. All registered exporters are members of the council. The address list of 1100 members who were active during the previous

financial year has been obtained from the council. Out of 1100 exporters, 150 exporters were selected by simple random sampling method for pilot study. All other 950 members are considered for main survey.

Considerable effort was made in questionnaire preparation and pre-testing. The personal interviews were conducted with the top executives of five leading exporting companies, one of the directors of the Apparel Export Promotion Council, and a management consultant to select the appropriate barriers from the list of barriers identified from the literature. A few barriers, unique to the knitted garment industries were added. In total sixteen barriers were included in the questionnaire and provisions were made to gather any other impediments that the respondent exporters consider as export barriers. To measure the perception of export barrier among exporters, we adopted the five points Likert Scale (1 very minor problem, 5 very major problem) used by Roger Bennett (1997).

For pilot survey, the questionnaires were sent to the one hundred and fifty exporters by courier service. A covering letter explaining the purpose of the survey and a prepaid business reply envelope were attached to each mailed questionnaire. Fourteen questionnaires were returned undelivered. Only eleven questionnaires were returned completed i.e. a response rate of eight percent; ten questionnaires were found useful. The pilot survey led to minor modifications.

To understand the poor response rate and the return of questionnaire undelivered, the proof of delivery and non-delivery notice provided by the courier service provider were closely scrutinized. It was found that the exporters' addresses were compiled from the application filled at the time of the registration with the council. Therefore, the addresses were updated to the extent possible and contact telephone numbers were added by pursuing the following directories.

1. Coimbatore District Gettit yellow pages and corporate pages 2004-05,
2. IndEX, Indian Exporters' Index 2003, published in the association with National Center for trade information, New Delhi.
3. BSNL, Coimbatore telephone directory 2004.

The modified questionnaires with the prepaid business reply envelope were mailed to all other 950 exporters. The small businesses are known to have a high failure rate (Palvia and Palvia, 1999). In total, 136 questionnaires were returned for the reasons: Party shifted, could not locate, insufficient address, no such address/name, company closed, etc. Thus, the total number surveyed was reduced to 814.

Due to resource constraint, the intimation letters regarding the survey were sent only to two hundred exporters randomly selected for this purpose. Two weeks after mailing the questionnaire, a reminder letter was sent to each of these exporters. This was followed by personal visits to their companies.

One hundred and twenty six questionnaires were returned with a gross response rate of 15.5%. Out of this, seven questionnaires were eliminated, as they were incomplete. With the ten useful questionnaires obtained in the pilot study, the total number of questionnaire considered for further analyses is one hundred and twenty nine. Thus the final response rate is 13.6%. As the typical response rates in small business survey are in the range of 10% - 15% (Karimabady and Brunn, 1991), our response rate is considered as normal and it is adequate for analyses.

As the non-response is a potential source of bias in survey methods, it has to be properly investigated (Fowler, 1993). The potential bias was evaluated by comparing responses to the items related to export barriers between first thirty and last thirty respondents that include the responses obtained by the personal follow-up. No significant differences are found except for the item, transport problems ($p=0.028$), between the early and late respondent groups, suggesting no non-response bias (Armstrong and Overton, 1982).

4. Results

4.1. ICT Infrastructure

The results indicate that all exporters have computer systems and Internet connectivity. The average hours per week of their Internet use is 36.14. The table 1 shows other details about ICT usage.

4.1.1. Usage of Internet

The electronic mailing has reached the status of ubiquitous Internet based business application in this industry. Another major purpose of Internet usage is information search (81%). One third of the respondents filing reports and returns to government agencies online. 28 percent of the respondents are selling their product through Internet and another 27 percent are using Internet for procurement.

4.1.2. Experience of operating Web site

Nearly two third of the respondents are having their own Web sites and these Web sites were visited by the researchers and found that in general the functionality of majority of these Web sites is providing information on the capabilities of the organization and information on products that they are capable of manufacturing. These sites solicit the feedback and inquiry information from business buyers, through the form facility of the Web pages and / or electronic mailing.

Table 1: Status of ICT Infrastructure

Experience of computer system use:	
Less than one year	: 2%
One to three years	: 8%
Above three years	: 90%
Availability of computer system and accessories:	
No. of Computer Systems	: 15.36 Avg.
No. of Printers	: 6.13 Avg.
No. of Scanner	: 1.32 Avg.
Computer systems are interconnected:	
Yes	: 75%
No	: 25%
Experience of Internet use:	
Less than one year	: 2%
One to two years	: 6%
Two to three years	: 10%
Above three years	: 82%
Web Presence (own Web Site):	
Yes	: 62%
No	: 38%

As the other respondents give more importance to personal contact (50%) and have not thought (37.5%) of having Web sites, they do not have Web sites on Internet. One third of them are not considering the Web as an effective marketing weapon. These respondents do not consider lack of technical knowledge and skill and perceived complexity of Internet operation as major hurdles in establishing Web sites.

The respondents who have Web sites perceive that their Web presence creates good business image (84%), provides sales leads (64%), and enables sales anywhere in the world (60%). Only 20 percent of them expect that the Web site can be a replacement for foreign branches.

Only three of the respondents operate multiple Web sites. It is observed that the Web sites of some of the respondents present the information in multiple languages. Three fourth of the Web site owners are indicating their Web site address in their official communications and about two third publish their Web site details in their company promotional materials.

Two third of the Web site owners find the features of their Web sites as good while comparing to that of others. Three fourth have an overall satisfaction with their experience of operating Web sites. 15 percent states that they have gained financial returns from Web site operation and 27 percent do not expect any financial returns. Another 56 percent expect to gain financial returns within the next two years.

4.1.3. ICT infrastructure of Exporters possessing Web sites

The availability of ICT hardware and the usage of Internet are shown in Table 2 for the exporters having Web site and compared with that of exporters not having Web site. The Mann Whitney Test is used for evaluating the significance of difference and it is found the different is highly significant in all aspects.

Table 2: ICT Hardware and Internet Usage

ICT Infrastructure		Exporter with Web site	Exporter without Web site	Significance level (p)
ICT Hardware (Nos. in Avg.)	Computer Systems	20.63	7.02	0.000***
	Printers	7.96	3.24	0.000***
	Scanners	1.61	0.86	0.000***
Internet usage (Hrs per week)		43.51	24.27	0.001***

*** p < 0.01

4.2. Perception of Export Barriers

The exporters were asked to indicate the extent to which they regarded various export barriers listed out as representing significant problem (1 = very minor problem 5 = very major problem) as far as their companies were

concerned. Their responses range from one to five (both the extreme values) for all the items. These results are shown in Table 3. The other impediments mentioned as export barriers are listed in table 4.

Table 3 Ratings of Perceptions on Export Barriers

Export Barrier	Minimum	Maximum	Mean	Standard Deviation
Fall in international market price	1	5	3.66	1.22
Intense competition in foreign market	1	5	3.64	1.15
Import restriction in foreign market	1	5	3.09	1.36
Training and retaining skilled labor	1	5	3.07	1.28
Indian rupees appreciation	1	5	3.01	1.31
Quality cost	1	5	2.99	1.26
Need for samples in obtaining each order	1	5	2.89	1.31
Capital goods import restrictions	1	5	2.83	1.45
Cost of free samples	1	5	2.73	1.31
Lack of management consultancy services	1	5	2.63	1.22
Lack of skilled staff	1	5	2.61	1.37
Need for foreign representation	1	5	2.55	1.25
Documentation problems	1	5	2.23	1.30
Transport problems	1	5	2.20	1.32
Inability to use foreign language	1	5	2.20	1.17
Getting payment	1	5	2.17	1.29

Scale: 1 – Very minor problem, 5 – Very major problem

Table 4 Other Export Barriers

Sl. No.	Other Export Barriers
1.	Unhealthy competition
2.	Shortage of water
3.	Rise in raw materials prices
4.	Organizational structure
5.	Non coordination between suppliers and exporters
6.	Network
7.	Labour laws
8.	Inspector raj (of Government agencies)
9.	Infrastructure
10.	Indian Government (Policies)

4.3. Factor Analysis

Factor analysis is a generic name given to a set of multivariate statistical methods whose primary purpose is to define the underlying dimensions in a data matrix and thereby simplify the data structure for further analyses. All

sixteen items measuring the perception of export barriers are considered for factor analysis. To assess the suitability of the data for factor analysis, Kaiser-Mayer-Olkin (KMO) measure of sample adequacy and Bartlett's test of sphericity are used.

Bartlett's test of sphericity indicates whether the variables are unrelated. The result of the test (p value - 0.000) indicates that there is probably significant relationship among variables. The KMO measure is a statistic, which indicates the proportion of variance in the variable that might be caused by underlying factors. The high value obtained (0.801) indicates that a factor analysis is useful with the data.

The principal component analysis is applied in order to extract the maximum variance from the items. Varimax, the orthogonal rotation method is utilized to redistribute the variance to achieve a simpler factor pattern. Using Latent Root (Eigen value) criterion, five factors that collectively explain 64% of the variance in all items are extracted.

4.3.1. Summated Scales

The objective of creating summated scale by combining several variables into a single composite measure is to avoid the use of only a single variable to represent a concept, and instead to use several variables as indicators, all representing different facets of the concept to obtain a more well-rounded perceptible. This scale construction technique provides a means of overcoming to some extent the measurement error inherent in all measured variables.

The rotated component matrix (Table 5) reveals that all the items load cleanly on their intended factors and these factors together truly represent the earlier theoretical models except the item quality cost for which the factor loading on the other component is 0.474. This demonstrates the convergent, discriminant and nomological validity (Peter, 1981). The construct reliability is assessed by internal consistency using Cronbach's alpha. The value of alpha ranges from 0.65 to 0.77. Considering the exploratory nature of the study, the scale reliability is good compared to the acceptable levels (Nunnally, 1978).

Table 5 Rotated Component Matrix – Factors of Perception on Export Barriers

Export Barrier	Factors				
	Organizational Barriers	Operational Barriers	Psychological Barriers	Product and Market Barriers	Psychic Distance Barrier
Lack of skilled staff	.764	.380	.092	.033	.039
Lack of management consultancy services	.697	.186	-.026	.424	.114
Indian rupees appreciation	.670	-.053	.397	-.043	-.223
Training and retaining skilled labour	.640	.223	.211	.141	.246
Transport problems	.309	.726	.099	.025	.061
Getting payment	-.025	.723	-.037	.087	.098
Capital goods import restrictions	.187	.672	.061	.254	.004
Documentation problems	.428	.507	.030	.108	-.238
Intense competition in foreign market	.125	.094	.802	-.045	.156
Fall in international market price	.114	-.073	.750	.262	.090
Import restriction in foreign market	.271	.383	.450	.213	-.019
Cost of free samples	.162	.107	.128	.769	-.074
Need for samples in obtaining each order	-.146	.246	.348	.670	.205
Inability to use foreign language	.378	.106	-.295	.584	.244
Quality cost	.184	.211	.380	.546	-.474
Need for foreign representation	.146	.071	.371	.129	.767

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 13 iterations

All of the variables loading highly on each factor are combined and the average scores of the variables are used as replacement variables. In order to obtain a power level of 80% at a 0.05 significant level, a factor loading of 0.45 (Hair et al., 2005) is considered as a cut-off value. The mean value with standard deviation of the resulted multivariate composite measure for each factor is shown in the table 6.

Table 6 Results for the Extraction of Common Factors

Factor	Eigen Value	% of Variance	Cum % of Variance	No. of indicators (variables)	Alpha	Combined score	
						Mean	SD
Organizational Barriers	2.570	16.063	16.063	4	0.8	2.832	0.99
Operational Barriers	2.294	14.336	30.399	4	0.7	2.357	0.96
Psychological Barriers	2.129	13.309	43.708	3	0.7	3.469	0.96
Product and Market Barriers	2.094	13.089	56.797	4	0.7	2.701	0.89
Psychic Distance Barrier	1.151	7.191	63.988	Single	N.A.	2.547	1.24

The values for the combined attitude scores relating to all five constructs (factors) and overall score (average value of these combined attitude scores for all these categories of export barriers) for exporters having Web site and those not having Web site are shown in Table 7. Web site adopters do not significantly differ from non-owners in their perception.

Table 7 Mean Difference in Perception between Web Site adopters and Non-adopters

Export Barrier Construct	Exporters with Web Sites		Exporters without Web Sites		Sig. level (2 tailed)
	Mean	SD	Mean	SD	
Psychological Barriers	3.51	0.88	3.40	1.08	0.532
Organizational Barriers	2.78	0.99	2.92	1.01	0.417
Product & Market Barriers	2.59	0.79	2.88	1.02	0.078*
Psychic Distance Barrier	2.47	1.29	2.67	1.18	0.358
Operational Barriers	2.37	0.99	2.34	0.93	0.847
Overall	2.81	0.66	2.88	0.81	0.598

* p < 0.10

4.4. Characteristics of Exporters possessing Web sites

The mean company's age is 15.71 years and the mean company's age of the exporters having Web site and those not having Web site are 16.05 and 15.16 respectively. The Mann Whitney test reveals that the difference is not statistically significant (p= 0.199). The industry has distinctive three phases in its development that are characterized by dominance of domestic market (pre 1985), flexible specialization (1985-95), and huge in-house production capacity (post 1995) respectively. Accordingly the exporters are classified into three groups namely young (lesser than 10 years), adult (11 – 20 years) and mature (more than 20 years). The association of the Web site ownership with these age groups is not found statistically significant.

The variances between the groups and within the groups are analyzed to tests the significance of the difference in perception of export barriers among the exporters at these three age groups. The results reveal that the mean differences are not statistically significant.

The Churchill and Levi's stage topology of small business growth (Eggers et al., 1994) is used to identify the Exporters business growth stages. The small business growth stages are Conception, Survival, Stabilization, Growth Orientation, Rapid Growth, and Resource Maturity. For the purpose of simplification, the pre-growth orientation stages viz., Conception, Survival, and Stabilization are combined together and named as Pre-growth Orientation stage. The post growth orientation stages viz. Rapid Growth and Resource Maturity are grouped together and named as Post-growth Orientation stage. The Chi Square test reveals that there is no relationship between the business growth stages and Web Site ownership.

The one-way ANOVA is carried out to test the differences in perception of export barriers among the exporters at the three business growth stages. The result is shown in the Table 8. The perceptions differ significantly among these three business growth stages for Product and Market Barriers, Psychic Distance Barriers, and Operational Barriers. The difference in overall perceptions of export barriers among exporters at different business growth stages is highly significant at the level of 0.003.

Table 8 ANOVA Test Results – Perception of Export Barriers at Different Business Growth Stages

Business Growth Stage	Statistics	Export Barriers					
		Psychological	Organizational	Product & Market	Psychic Distance	Operational	Overall
Pre-Growth Orientation	Mean	3.70	3.00	3.04	2.80	2.63	3.09
	SD	1.03	1.03	0.72	1.26	0.92	0.67
Growth Orientation	Mean	3.38	2.82	2.69	2.63	2.32	2.80
	SD	0.83	0.97	0.91	1.32	0.99	0.70
Post-Growth Orientation	Mean	3.29	2.63	2.26	2.09	2.04	2.55
	SD	0.98	0.97	0.91	1.03	0.90	0.71
F Test	Value	2.13	1.36	8.48	3.50	3.94	6.00
	Sig.	0.123	0.261	0.000***	0.033**	0.022**	0.003***

*** p < 0.01 ** p < 0.05

The independent-sample t test has been carried out to assess the differences in perception of export barriers between the firms having Web sites and the firms not having Web sites at all the three business growth stages. The results shown in the table 9 reveal that the firms with Web sites do not significantly differ from others and we conclude that the perception of export barriers among the exporters remain same at all business growth stages irrespective of having Web site or not.

Table 9 Mean Difference in Perception of Export Barriers at different Business Growth Stages

Business Growth Stage		Perception of Export Barriers (Mean Value)					
		Psychological	Organizational	Product & Market	Psychic Distance	Operational	Overall
Pre-growth Orientation	With Web site	3.86	2.84	3.03	2.63	2.75	3.12
	Without Web site	3.52	3.16	3.06	3.00	2.50	3.06
	Sig.	0.26	0.31	0.91	0.32	0.30	0.75
Growth Orientation	With Web site	3.40	2.74	2.57	2.64	2.26	2.74
	Without Web site	3.31	3.00	2.95	2.60	2.47	2.93
	Sig.	0.72	0.40	0.26	0.93	0.50	0.39
Post-growth Orientation	With Web site	3.26	2.75	2.15	2.05	2.13	2.58
	Without Web site	3.31	2.40	2.46	2.17	1.88	2.51
	Sig.	0.96	0.32	0.35	0.75	0.45	0.79

Similar t tests are conducted for different age groups and the results are shown in the table 10. Among the firms with less than 10 years age, the mean difference between the firms having Web sites and the firms not having Web

site is significant for Product and Market Barriers, Operational Barriers and Overall Export Barriers. However, the differences are not significant in all other cases.

Table 10 Mean Difference in Perception of Export Barriers at different Company's Age Groups.

Company's Age Group		Perception of Export Barriers (Mean Value)					
		Psycho logical	Organisational	Product & Market	Psychic Distance	Opera tional	Overall
Less than 10 years	With Web site	3.50	2.70	2.38	2.50	2.19	2.69
	Without Web site	3.71	2.96	3.45	3.07	2.73	3.21
	Sig.	0.517	0.400	0.001***	0.232	0.087*	0.037**
11 – 20 years	With Web site	3.54	2.74	2.66	2.45	2.35	2.82
	Without Web site	3.20	2.88	2.65	2.38	2.25	2.75
	Sig.	0.213	0.580	0.990	0.842	0.895	0.677
More than 20 years	With Web site	3.45	2.94	2.69	2.47	2.63	2.93
	Without Web site	3.57	3.00	2.64	3.00	1.89	2.78
	Sig.	0.693	0.906	0.907	0.341	0.119	0.630

*** p < 0.01 ** p < 0.05 * p < 0.10

The exporters having Web sites are equally divided into three groups based on their overall perception on export barriers. The satisfaction level of their Web site operation is analyzed with cross tabulation (Table 11). The Chi square result reveals the presence of significant association between the satisfaction level of Web site operation and the level of overall perception on export barriers. Lower the level of overall perception on export barrier, the more is the number of exporters pleased with their Web site operation.

Table 11: Association between Satisfaction Level of Web Site Operation and Level of Overall Perception on Export Barrier.

Satisfaction Level of Web Site Operation	Overall Perception on Export Barrier						Total
	Low		Medium		High		
	Actual	Expected	Actual	Expected	Actual	Expected	
Pleased	25	21.6	20	17.3	12	18.0	57
Not so pleased	5	8.4	4	6.7	13	7.0	22
Total	30		24		25		79
Chi Square Test				Value		d.f.	Asymp. Sig.
Pearson Chi Square				10.618		2	.005***

*** P < 0.01

5. Discussion

Except for the Psychological barriers, the perception levels of these exporters for all other export barriers are lower than the mean value of 3.0. This shows the maturity of the industry and the expertise of the firms in export business. The item, getting payment receives the lowest rating and this may perhaps demonstrate their successful execution of differentiation / focused strategy that make their buyers perceive their products / services as unique and

pay willingly for supplies. This may also possibly indicate their financial resourcefulness for electronic commerce related investments.

The ratings for the perception on Organizational, Product and Market, and Psychic Distance Barriers are lower for the exporters with Web sites. And for other export barriers viz. Psychological and Operational Barriers, the ratings are higher. The barriers that do not favorably change with Web site adoption are largely beyond a firm's control. These external barriers cannot be normally overcome by a firm's actions alone. The results appear to show that the pattern of perception depends upon the kinds of barriers. However, the difference on any of the five barriers is not significant. The overall perception of export barriers remain at same level for these two groups.

Even though there is significant difference in the possession of ICT infrastructure, the impact on their perception of export barriers, the inhibiting factor of export business performance is not significant. Does it demonstrates the failure of the exporters with Web site in realizing the business performance value of the process of integrating commodity like components of ICT infrastructure to develop an integrative infrastructure tailored to their firm's strategic context (Zhu and Kraemer, 2002; Zhuang, 2005)?

It is generally believed that the perception on severity of export problems will be reduced over the years of business operation. However, the results reveal that the difference in the level of perception of export barriers among exporters in these three firm's age groups is not significant.

As the business growth stages reflect the effectiveness of exporters existence and experience, the Churchill and Levi's stage topology of small business growth is used to categorize the exporters. The composite overall score for the perception of export barriers decreases with the advancement in the business growth stages. The analyses confirm that the difference is significant at the level of 0.003. This proves that the progression in their business growth stages lessen their perception on severity of export barriers.

To eliminate the influence of business growth stage, the impact of ownership of Web site on perception of export barriers is further independently investigated at these three business growth stages. The composite overall score of the exporting firms having Web site and that of exporting firms not having Web site are shown in Figure 1. In the case of firms with Web site, the fall in the overall score from pre-growth orientation stage to growth orientation stage is stronger than that from growth orientation stage to post growth orientation stage. It is noticed that in the growth orientation stage the overall score for perception of exporters with Web sites is lower than others. However the analyses confirm that at all the three business growth stages the exporters with Web sites do not significantly differ from the exporters without Web site in their perception of export barriers.

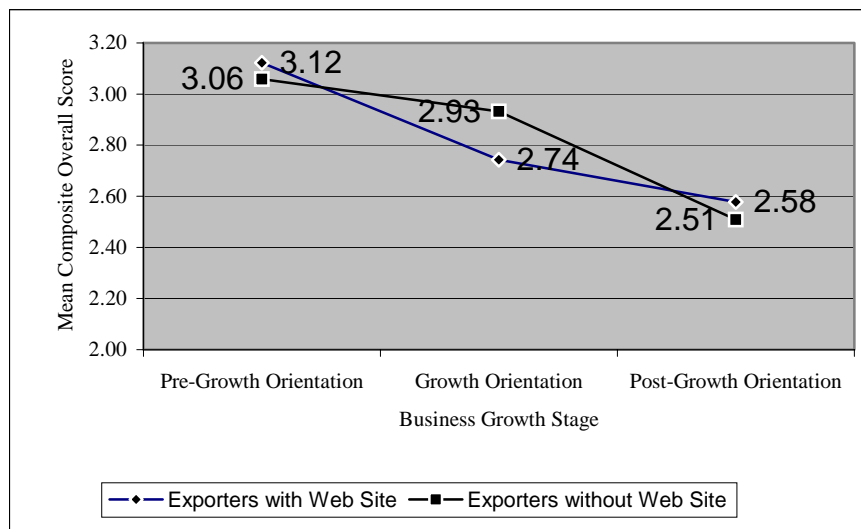


Figure 1 Perception of Export Barriers at different Business Growth States

Even though the company's age emerged as a non-critical factor as explained in the above paragraphs, with abundant caution, we proposed to investigate the perception difference between Web site owners and non-owners in different company's age groups. To our surprise, in the company's age group less than 10 years we find that the overall score of the Web site owners is considerably lesser than that of non-owners. And it steadily increases with the progression in company's age as shown in the figure 2, where as the general expectation is that it will decrease with company's age. The analyses also confirm that the difference is significant (0.037) among the exporters with

company's age less than 10 years. The difference for Product and Market barriers significantly contribute (0.001) for overall difference.

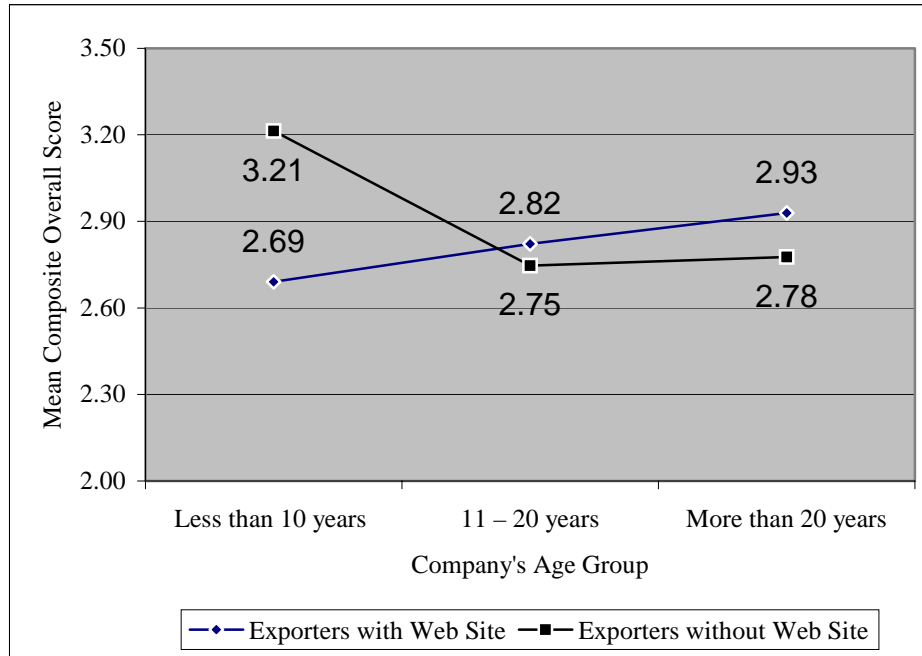


Figure 2 Perception of Export Barriers at different Age Groups

The young exporting firms who are at growth orientation stage may be targeted to promote the usage of Web sites and demonstrate the effectiveness of Web site in lessening the perception of severity of various export barriers thereby enhance their confidence in export marketing success. The other exporters with Web site have to understand the requirement of integrating their Web activities more closely with the export marketing communication mix and further effectively utilizing the functionalities provided by Web for Electronic Commerce.

The exporters who perceive lesser barriers than others are pleased with their Web site operations. It appears that sharing information with partners and customers across network enables them to improve their internal processes and their strategic positioning (Straub et al., 2002).

One of the limitations of the study is that it does not consider the capabilities of their Web sites and their electronic commerce strategies. As the international business environment is of dynamic nature, the exporters' perception of export barrier in general and psychological barriers in particular may be further investigated by longitudinal studies. Vivekanandan and Rajendran (2005b) report that perceptions of export barriers significantly differ among the electronic commerce adopter categories. Further studies to research the linkage between the perceptions of export barriers and the export business performance will be of high practical value.

6. Conclusion

The World Wide Web on the Internet is the first and the current networked global implementation of hypermedia computer mediated environment (Hoffman and Novak, 1996). Many exporters do business in this environment that calls for a new marketing paradigm and provide a great opportunity to expand export business and simplify transactions (Stallings, 2003). In the fast changing global business scenario, to maintain the global market share, the Indian apparel export industry should on one hand consolidate their production facilities to handle large orders and improve their productivity and on the other hand establish online business functionality to reach new market and coordinate with and facilitate the existing and new buyers monitor the performance of exporters in real time. This requires a high level of commitment and financial investment by these exporters. Their attitude toward the impediments to export will be the critical deciding factor not only in their willingness to investment but also in success of the export endeavors.

The Web provides the online business functionality and at the same time removes a number of hindrances associated with exporting. The study empirically analyzes the perception of export barriers among Tirupur knitwear apparel exporters. The total number of registered active exporters surveyed is 950 with the net response rate of 13.6.

The Psychological barriers are considered as the biggest impediment to their export activities. Their overall perception of export barriers decreases significantly with their advancement in the business growth stages and not with their company's age. At present, the ownership of Web sites is independent of their business growth stage and company's age group.

At all the three business growth stages, the exporters with Web site differ from exports without Web sites in their perception on export barriers and however, the differences are not significant. At the Resource Maturity business growth stage and in the company age group of more than 20 years, the overall perceptions of Web site owners are greater than that of non-owners. However, these differences are not statistically significant.

In the case of exporters with Web site the overall perception increases with the progression in their company age groups. Whereas, in the company age group of less than 10 years, their overall perception level is significantly lower than that of exporters without Web sites. The difference in the perception on Product and Market barriers and Operational barriers contribute to the difference in the overall perception levels.

The exporters with Web site could leverage their investment in Web based technologies by exploiting all business functionalities provided by the Web. The promotional efforts of government and non-government organizations may focus to the exporters who demonstrate the benefits of ownership of Web sites and develop them as role models. The late adopters place greater credibility in the subjective experience of peers and pressure of peers is necessary to motivate them (Rogers, 1995). The future research could investigate the linkage between the perceptions of exporters and their business performance to establish the ultimate benefit of operating the Web sites.

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