CHAPTER 6

SUMMARY OF FINDINGS, SUGGESTIONS
AND CONCLUSION

6.1 ANTECEDENT OF THE STUDY

Global business consists of transactions that are devised and carried out across national borders to satisfy the objectives of individuals, companies and organizations. Primary type of international business is import-export trade. The transaction environmental factors resulting from different laws, cultures and societies produce different constraints and frequent conflicts. Compared to domestic market the basic principles of business still apply in global business. However, complexity and intensity vary substantially. To operate outside national borders, firms must be ready to incorporate international considerations into their thinking and planning, and making decisions such as the threats from global competition should be expected and how can these threats be counteracted? When management integrates these issues into each decision, international markets can provide growth, profit and needs satisfaction which is not available to those that limits their activities to the domestic marketplace (Czinkota et al 2004).

The textile and apparel industry is one of the leading segments of the Indian economy and the largest source of foreign exchange earnings for India. This industry accounts for 4 percent of the gross domestic product (GDP), 20 percent of industrial output and slightly more than
30 percent of export earnings (Shanmugasundram & Panchanatham 2011). The textile and apparel industry employs about 38 million people, making it the largest source of industrial employment in India. Tirupur knitwear garment exports are estimated to be around Rs. 15,000 crores in 2013-14, an increase of 15-20 percent over the previous year. In 2006-07, when the industry clocked around Rs. 11,000 crores, it had set a target to reach $4 bn by 2012; however, it could reach only $2.75 bn. Tirupur contributed 19 percent of India’s total woven and knitwear fabric exports worth Rs. 70,312 crores in value terms in 2012-13.


Electronic commerce is believed to benefit businesses by reducing transaction costs, facilitating the development of geographically dispersed markets and improving coordination between cooperating parties. These benefits have been assessed in a number of studies of large and small businesses. However, the mere adoption of e-commerce does not ensure superior performance because it is a challenge to translate IT-related organizational resources into collaborative process capabilities (Zhao et al 2008). Research has also shown that companies in developing countries realize far less benefits of e-commerce than expected. Most organizations have merely achieve communication improvements and may even suffer from increased competition from companies in developed countries (Alexander Vuylsteke & Simon Fraser 2011).
In developed countries, researchers have analysed why some companies successfully adopt e-commerce while others fail. Success depends on strategic choices, organizational capabilities (e.g., innovation capability) and market characteristics. However, comparatively little research has been done about e-commerce success in organizations operating in developing countries. Many observers have commented on various impediments to successful electronic commerce initiatives in the developing world. These include poor physical infrastructure, inadequate telecommunications infrastructure, underdeveloped technical and managerial skills base; culture not familiar to ICT mediated transactions, banking systems, legal and bureaucratic “red tape” and negative security perceptions. Few, however have looked at the impact of industry structure on the likelihood of success for electronic commerce ventures and fewer still have looked at this impact in the context of small developing economies. Porter (1980) points out, however, that even in an unattractive industry firms can earn above average profits by deploying strategies that differentiate them from their competitors (Alexander Vuylsteke & Simon Fraser 2011).

Integration of information and communication technology establishes a fair relation within and between the organization and the individual. As a result of this amalgamation cost is reduced, productivity shoots up, participation of customer is higher. The revolution of IT and web technology creates demarcation among traditional and electronic market place are being reduced to great extent.

Many commentators have written about the positive impact the internet can have on small and medium companies, particularly in the developing world. They have pointed to the ability of these firms to reduce transaction costs and to profitably sell to new markets. The application of
IT in textile and garment industry can help them in improving the overall performance. In country like India, it is very important that textile industry remain strong and grow continuously as it is the provider of highest jobs after agriculture.

The study focused on the following objectives to overcome the problems that Tirupur garment sector faces currently in terms of adoption of IT for their business process.

- To enumerate the problems faced due to deficiency of information system orientation for garment exports
- To study the awareness of information system interface in global business in Tirupur garment industry to expand their market globally
- To study the urge of Tirupur garment industry to expand their market globally
- To elucidate the potentiality of Tirupur garment industry to incorporate information system orientation for business
- To enumerate the opportunities what Tirupur garment industry has in global market in reinforcing information system orientation

The research methodology adopted for the study is of a descriptive research. The instrument for the survey will be a questionnaire, and standard measures were adopted for series of interviews with industry experts to validate the instrument. Five point Likert techniques is used for the analysis of the study. A pilot study is carried over for a sample of
50 respondents. After pilot survey, the final questionnaire was designed. This comprises of six subsections with reference to objectives with a procedural flow.

The population taken for the study is Tirupur garment exporters who are registered under AEPC (Apparel Export Promotion Council). Sample sizes of 500 garment exporters are chosen for the study which is not less than 25% of the overall sample. The data collected were analysed and interpreted. The major findings of the study are described in the next section.

6.2 FINDINGS FROM THE PRIMARY DATA

The responses were collected at the Tirupur knitwear garment cluster from the sample firms selected from the AEPC list. Among the registered member of AEPC, 500 responses were received. One representative from each of the company responded to the questionnaire. Since there are women in certain administrative positions in garment firms both men and women were part of the survey, and majority of the respondents were male. Majority of the respondents are from the age group of 26-35 years. The educational qualification of the majority of the respondents was found to be under graduation.

To understand the complexity of the business and the need for the IT and its integration, the demography of the responding companies was analysed. Looking at the company profile, majority of companies were 6-10 years old. Equal number of companies was also 16-20 years old. Most of the responding companies were proprietorship firms. There were a few ‘Private Ltd.’ and ‘Joint Venture’ firms too.
It is found from the study that majority of the firms are 100% Export Oriented Units (EOU). It is evident from the results that the turnover of the majority of the firms is less than 10 crores. Many firms have their headquarters in Tirupur. A few have headquarters outside Tamilnadu and outside the country. Much of the companies did not have any branch or units and operate in a single location. At the same time, close to equal number of companies have less than 5 branches or units. This shows that the responding companies have their production process disintegrated. On the size of the enterprise, it is found that most of the companies are small in size. Majority of the companies use internet connection from the public network only. The study found that majority of the companies agrees to the need of information technology for company growth.

The study reveals that companies decide to implement information technology mainly to replace out dated products and process. Followed by the quality of products and will implement as a part of regulatory requirement. The study highlights that companies do not agree that adoption of information technology will help to enter new markets, increase range of products and improve health and safety

It is evident from the study that the benefits such as improved SCM, reduced supply chain costs, shorter lead times, efficient information exchange, creation of “virtual networks”, handle smaller batches are the major benefits in implementing IT in the company.

It is explained from the study that majority of the respondents agree that the adoption of IT will not reduce the supply chain cost and help in handling smaller batches. The important benefit that was agreed by most of the respondents was that IT provides efficient information exchange.
The other benefits that were most agreed are shorter lead times, improved SCM and creation of “virtual networks”.

It is evident from the study that the majority of the respondents disagree that management encourage employees to use IT, Cost of the IT is higher than benefits. They also disagree that there are specialist available for handling the hardware and software. It also found that specialised instructions, education and technical guidance are not available.

The study also highlights that majority of the respondents agree that management supports the IT adoption and allocates enough resources. The respondents also agree that high money and time is invested in IT and the IT is implemented because of strategic necessity and customers require the facility, therefore companies adopt it for retaining customers.

The study reveals the challenges constraining the adoption of information technology. Majority of the respondents disagree that lack of funds, top management commitment, inability to access capital, lack of knowledge about available technologies, cultural barriers to information sharing, no demand for information technology and lack of government incentives for IT adoption are factors constraining the adoption of IT.

It is evident from the study that a majority of the respondents agree that lack of qualified personnel, difficulty in providing training, low awareness of the expectations of buyers, existing IT equipment or incompatible systems and lack of awareness of upcoming technologies are the major constraining the adoption of IT.

Respondents were asked to rank the functional parameters that influenced the choice of implementation of the system. Nature of
requirements ranks first. Level of internal expertise ranks second and use of external resources ranks third. The results show that extend of project team training and formation ranks the least.

The extent of integration of system in various business processes respondents was measured. Majority of the respondents answered that enterprises connecting computers with a LAN was used to an extent of 41 to 60%. On the internet connectivity majority of the respondents (152 respondents making 30.4%) said that they used it to an extent of 41 to 60%. Majority of the respondents answered that they have remote access to the company network to an extent of 41 to 60%. On the use of Virtual Private Network (VPN), many respondents said that they used it to an extent of 41 to 60%. Majority of the respondents answered that they have intranet to an extent of 41 to 60%. On the use of online technology to track working hours or production time, majority of the respondents said that they used it to an extent of 41 to 60%. Most of the respondents answered that they use EDM to an extent of 41 to 60%. On the use of ERP system many respondents said that they used it to an extent of 41 to 60%. Most of the respondents answered that enterprise purchasing at least 5% of their supplies online to an extent of 41 to 60%. On the use of specific IT solutions for e-procurement majority of the respondents said that they used it to an extent of 41 to 60%. Most of the respondents answered that they use SCM systems to an extent of 41 to 60%. On online management of capacity and inventory, more number of respondents said that they used it to an extent of 41 to 60%. Majority of the respondents answered that they use website with a content management system to an extent of 41 to 60%. On the use of CRM software systems majority of the respondents said that they used it to an extent of 41 to 60%. Majority of the respondents answered that the enterprises sells at least 5% of their goods
and services online to an extent of 41 to 60%. On the use of specific IT solutions for marketing and sales processes system, majority of the respondents said that they used it to an extent of 41 to 60%.

The study highlights the status of ERP implementation and factors that force ERP implementation. Majority of the businesses have implemented ERP. Among the various factors responsible for implementation of ERP, majority of the respondent companies felt the need to compete with competitors as the major reason for which they have implemented ERP. Other factors that were felt as major factors for ERP implementation are technical factor, business / strategic factor, functional factors, cost saving and other financial factors, for quick access of information and completion of the work in time.

The study also reveals that project cost overrun is considered as the major problem during an ERP implementation. The next major problem is the project delay which ranks second and employee resistance to change ranks third. Insufficient training, conflict with business strategy and lack of management support are considered as the least problem faced during the ERP implementation.

The study revealed that improved operational flexibility & efficiency is considered as the most required success factor for implementation of an ERP. It is followed by effective training & opportunity to learn new things and inter departmental communication. The other factors like agility, improved quality of operations, proficient project team are also considered as high success factor. ERP functionalities meet job requirements, help from consultant, support from seniors & fulfil management expectations and reduction in operational cost also has high success factors.
It is explicit from the study that majority of the respondents feel that trainings are provided frequently. In addition the study proves that many companies feel highly satisfied with ERP training.

On the e-business orientations the study reveals that majority of the respondents confirmed the availability of e-business and e-commerce in their company. The study also revealed that majority of the firms confirmed that they have organization’s official website.

The study highlights that majority of the respondents feel that it is important to have e-business and e-commerce. On the length of e-business usage, majority of the firm responded that they are using e-commerce and e-business for more than five years. The study reveals that many firms use B2B ecommerce. On the use of e-commerce in e-business domain, majority of the respondents replied that it quickens the business process.

On the e-commerce use in business communication the study highlights that it smoothens business by creating customer and business network. The study reveals that majority of them agreed that there is advantage of e-commerce over the traditional approach.

The study proves that the challenges to the implementation of e-business in India, most of the respondents replied that slow penetration of internet is their major challenge. It is explicit from the study that the results of e-commerce usage there was increase in sales volume, increase product and service varieties, increase wider geographical market reach, reduces enterprise cost.
The study highlighted that majority of firms have international marketing activities. The extent of export out of their final sales volume was 100% for majority of the firms. The study proves that for majority of respondents, exporting is the primary focus of their firms. The study highlighted that majority of respondents said it is important for integration of information and communication technology.

It is evident from the study that majority of them used only face to face contact for marketing. Another large number of respondents said that they have web hoisting (online) for marketing. On the type of product line the companies have to cater the global market, many companies were producing women’s wear as their main product. It is found from the study that on the change in sales revenue since the enterprise took up e-business, majority of respondents said that their sales increased gradually after e-business.

The study revealed that the most of the respondents export to USA. European countries ranked as second and UK as third. Hong Kong and Thailand ranked fifth and sixth respectively. It is proved from the study that sea way is the major mode of transportation. The mode of railways ranks second, roadways is the third preferred mode and air shipment is the last preferred.

The study shows that buyers chose their suppliers based on reputation of the company, quality of products ranks second and adoption of technology, price and change over time is considered the least factors. The study reveals that majority of the respondent companies have turnover between 21-30 crores. It is highlighted from the study that in the increase in average annual turnover due to the adoption of IT, majority of the respondents had 21-40% increase.
The study reveals that on business performance of company against the comparable competitors, majority of the respondents said that their profit growth compared to other is more. Many respondents also agree that they perform high in ability to attract new clients and have high turnover growth compared to their competitors, on factors such as productivity growth, operational efficiency, ability to increase market share, ability to gain repeat business, level of customer satisfaction, and overall reputation respondents feel to perform higher than their competitors. Ability to deliver promises and growth in return on investment is measured low. It shows that the respondents felt that their performance is low compared to other companies.

The reliability of the instrument is tested using Cronbach’s alpha and it is found that the alpha value was above the threshold level and the instrument is found to be reliable.

To analyse the difference in the factors that influence the adoption of an ERP and the level of IT integration among the knitwear garment companies that have a varying international marketing activity, an ANOVA test was done. It is evident from the study that there is difference in the factors of ERP adoption among companies having varying international marketing activity and there is difference in the level of IT integration among companies having varying international marketing activity.

To analyse the difference in the factors that influence the adoption of an ERP and the level of IT integration among the knitwear garment companies that have a varying export orientation, an ANOVA test was done. It is evident from the study that there is difference in the factors of ERP adoption among companies having varying export orientation and
there is difference in the level of IT integration among companies having varying export orientation. It also found that the ERP adoption and integration level are similar for organisations that say exporting is the key to firm’s future success, exporting is not too difficult for their firm and exporting is the primary focus of their firm. The firms that do not have export orientation have a different ERP adoption and integration of IT.

The regression test reveals that challenges, benefits, awareness can predict the adoption factors or influence it. It is evident that awareness and benefits are positive and statistically significant. Challenges were found to negatively and significantly influence the IT adoption factor. Thus the higher the awareness and benefits from the industry, the higher is their adoption factor towards adoption of information technology. From the results, predictive equation was framed. Predictive equation is nothing but the regression equation that is simply said as

\[ Y = a + bX + c \]  \hspace{1cm} (6.1)

where \( Y \) is the dependent variable, \( X \) is the independent variable, \( a \) is the constant and \( b \) is the regression coefficient. The equations are as follows:

\[ \text{Adoption Factors} = \left[ \frac{0.198 + (0.600 \times \text{Awareness}) + (0.352 \times \text{Benefits}) - (0.42 \times \text{Challenges})}{\phantom{0.198}} \right] \]  \hspace{1cm} (6.2)

Regression test reveals that challenges, benefits, awareness influence the integration level. The results show that awareness and benefits positively and significantly influence integration level. Challenges negatively and significantly influence the IT integration level.
Thus, the prediction equation can be written as:

\[
\text{Integration Level} = \left[ 0.000 + (0.180 \times \text{X awareness}) + (0.109 \times \text{X benefits}) - (0.630 \times \text{X challenges}) \right]
\] (6.3)

From the regression test, it is found that training & learning, communication, support, proficient project team, consultant help, operational help, improved operations, agile, job requirements, operation quality, ERP training influence the ERP adoption. Training & learning, proficient project team, job requirements, operation quality were found to be positive and statistically significant. However, communication, operational cost, consultant help, improved operations, agile and ERP training are found to be insignificant.

The study suggests that higher the training & learning, proficient project team, agile, job requirements, operation quality, from the industry, the higher is their ERP implementation towards business related factors.

Thus, the prediction equation can be written as:

\[
\text{ERP}_{\text{implementation}} = \left[ 3.741 + (0.201 \times \text{X training and learning}) - (0.391 \times \text{X support}) + (0.291 \times \text{X proficient project team}) + (0.016 \times \text{X agile}) + (0.265 \times \text{X job requirements}) + (0.264 \times \text{X operation quality}) \right]
\] (6.4)

To find the proportion of variance accounted in the IT integration by the predictor variables such as support, website, importance, usage period, type of e-com, help consumers, communication, advantage,
challenges and benefits, a regression test was done and the results show that higher the support, website, type of e-com, help consumers, communication, advantage, the higher is their IT integration to business factors. It is evident from the study that support, website, type of e-com, help consumers, communication and advantage are positive and statistically significant. It is also evident that importance, usage period, challenges and benefits are insignificant.

Thus, the prediction equation is written as:

\[
\text{IT integration} = \begin{bmatrix} -1.991 + (0.042 \times \text{support}) \\
+ (0.011 \times \text{website}) \\
+ (0.012 \times \text{type of e-com}) \\
+ (0.017 \times \text{help consumers}) \\
+ (0.009 \times \text{communication}) \\
+ (0.640 \times \text{advantage}) \end{bmatrix}
\] (6.5)

The chi-square results of dependence of buyer decision based on company’s international marketing efforts shows that except for reputation and adoption of technology, all the other factors like quality, change over time, price, consistency, on time delivery, innovations, transparency, satisfaction of customers and relation depend on the international marketing efforts of the firm. The results reveal that buyer decision in choosing a supplier will depend on company’s international marketing activities. It is also found that change-over time has more dependence followed by price and quality.

The chi-square results of dependence of buyer decision based on company’s percentage of exports reveal that all the factors like reputation, adoption of technology, quality, change over time, price, consistency, on time delivery, innovations, transparency, satisfaction of customers and
relation depend on the company’s percentage of exports. The results also show that adoption of technology has more dependence followed by reputation, change over time and satisfying customers.

The chi-square results reveal that except for relationship all the other factors like reputation, adoption of technology, quality and change over time, price and consistency, on time delivery, innovations, transparency and satisfaction of customers depend on the export orientation of the firm. It is also found that transparency has more dependence followed by price and quality.

The chi-square results reveal that except for relationship all the other factors like reputation, adoption of technology, quality, change over time, price, consistency, on time delivery, innovations, transparency and satisfaction of customers depend on the organisation size. It is also found that satisfying customer’s requirement has more dependence followed by on time delivery and reputation.

The chi-square results reveal that except for change over time all the other factors like reputation, adoption of technology, quality, price, consistency, on time delivery, innovations, transparency, satisfaction of customers and relationship depend on the business type of the supplier. It is found that price has more dependence followed by quality and on time delivery.

Non parametric results show that except for the extend of project team training and formation, for all the other factors such as nature of requirements, number of modules, number of interfaces with other applications, nature of integration, level of customization, level of internal
expertise and use of external resources the distribution of the rank is the same across the different organisation size.

Non parametric test shows that except for the project delays, project cost overrun and conflict with vendors, all the other challenges such as conflicts with business strategy, employees’ resistance to change, conflicts with consultants, internal conflicts, insufficient training and lack of management support, the distribution of the rank is the same across the different organisation size.

Non parametric results show that except for price and relationship with customers and suppliers, all the other factors such as reputation of the company, adoption of technology, quality of the product, change-over time, consistency in market place, on time delivery, innovations, transparency of work principles and satisfying customers’ requirements the distribution of the rank is the same across the different organisation size.

The result of confirmative factor confirms the convergence and discriminant validity of the measurement instrument and the fitness of the data.

PLS path analysis shows that global marketing, aware on IT, benefits, challenges and adoption factors influence ERP adoption and export orientation. In addition, ERP adoption and export orientation will influence IT integration and IT integration in turn will influence the business performance.
The path between challenges to ERP and challenges to e-business orientation is found to be highly significant but negative. Other paths in the model are found to be positive and significant.

Summary of the results of hypotheses test and the conclusions drawn are presented in Table 6.1.

**Table 6.1  Summary of the results of hypotheses testing**

<table>
<thead>
<tr>
<th>Hyp. No.</th>
<th>Hypothesis Statement</th>
<th>Tests</th>
<th>Result*</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1o</td>
<td>There is no difference in the factors of ERP adoption among companies having varying international marketing activity</td>
<td>ANOVA</td>
<td>Sig</td>
<td>Rejected</td>
</tr>
<tr>
<td>H2o</td>
<td>There is no difference in the level of IT integration among companies having varying international marketing activity</td>
<td>ANOVA</td>
<td>Sig</td>
<td>Rejected</td>
</tr>
<tr>
<td>H3o</td>
<td>There is no difference in the factors of ERP adoption among companies having varying export orientation</td>
<td>ANOVA</td>
<td>Sig</td>
<td>Rejected</td>
</tr>
<tr>
<td>H4o</td>
<td>There is no difference in the level of IT integration among companies having varying export orientation</td>
<td>ANOVA</td>
<td>Sig</td>
<td>Rejected</td>
</tr>
<tr>
<td>H5o</td>
<td>Challenges, benefits and awareness will not influence the adoption factors</td>
<td>Regression</td>
<td>Sig</td>
<td>Rejected</td>
</tr>
<tr>
<td>H6o</td>
<td>Challenges, benefits and awareness will not influence the integration level of IT</td>
<td>Regression</td>
<td>Sig</td>
<td>Rejected</td>
</tr>
<tr>
<td>Hyp. No.</td>
<td>Hypothesis Statement</td>
<td>Tests</td>
<td>Result*</td>
<td>Conclusion</td>
</tr>
<tr>
<td>---------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------</td>
<td>---------</td>
<td>------------</td>
</tr>
<tr>
<td>H7o</td>
<td>Training &amp; learning, communication, support, proficient project team, consultant help, operational help, improved operations, agile, job requirements, operation quality, ERP training will not influence the ERP implementation</td>
<td>Regression</td>
<td>Sig</td>
<td>Rejected</td>
</tr>
<tr>
<td>H8o</td>
<td>Support, website, importance, usage period, Type of e-com, help consumers, communication, advantage, challenges, and benefit will not influence the IT integration</td>
<td>Regression</td>
<td>Sig</td>
<td>Rejected</td>
</tr>
<tr>
<td>H9o</td>
<td>Buyer decision in choosing a supplier does not depend on the company’s international marketing activities</td>
<td>Chi -Square</td>
<td>Sig</td>
<td>Rejected</td>
</tr>
<tr>
<td>H10o</td>
<td>Buyer decision in choosing a supplier does not depend on the company’s percentage of exports</td>
<td>Chi -Square</td>
<td>Sig</td>
<td>Rejected</td>
</tr>
<tr>
<td>H11o</td>
<td>Buyer decision in choosing a supplier does not depend on the company’s export orientation</td>
<td>Chi -Square</td>
<td>Sig</td>
<td>Rejected</td>
</tr>
<tr>
<td>H12o</td>
<td>Buyer decision in choosing a supplier does not depend on the organisation size of the supplier</td>
<td>Chi -Square</td>
<td>Sig</td>
<td>Rejected</td>
</tr>
<tr>
<td>H13o</td>
<td>Buyer decision in choosing a supplier does not depend on the business type of the supplier</td>
<td>Chi -Square</td>
<td>Sig</td>
<td>Rejected</td>
</tr>
</tbody>
</table>
Table 6.1 (Continued..)

<table>
<thead>
<tr>
<th>Hyp. No.</th>
<th>Hypothesis Statement</th>
<th>Tests</th>
<th>Result*</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>H14o</td>
<td>The distribution of the ordered responses of the factor influencing system implementation is the same across the different organisation size</td>
<td>Jonckheere-Terpstra Test</td>
<td>NS</td>
<td>Accepted</td>
</tr>
<tr>
<td>H15o</td>
<td>The distribution of the ordered responses of challenges in ERP implementation is the same across the different organisation size</td>
<td>Jonckheere-Terpstra Test</td>
<td>NS</td>
<td>Accepted</td>
</tr>
<tr>
<td>H16o</td>
<td>The distribution of the ordered responses of factor influencing buyer decision is the same across the different organisation size</td>
<td>Jonckheere-Terpstra Test</td>
<td>NS</td>
<td>Accepted</td>
</tr>
<tr>
<td>H17o</td>
<td>Business performance of the organisation will not be influenced by the level of IT integration</td>
<td>Path Analysis</td>
<td>Sig</td>
<td>Rejected</td>
</tr>
<tr>
<td>H18o</td>
<td>ERP Implementation will not influence the level of IT integration.</td>
<td>Path Analysis</td>
<td>Sig</td>
<td>Rejected</td>
</tr>
<tr>
<td>H19o</td>
<td>Export orientation will not influence the level of IT integration.</td>
<td>Path Analysis</td>
<td>Sig</td>
<td>Rejected</td>
</tr>
<tr>
<td>H20o</td>
<td>Global marketing, aware on IT, benefits, challenges and adoption factors will not influence ERP adoption</td>
<td>Path Analysis</td>
<td>Sig</td>
<td>Rejected</td>
</tr>
<tr>
<td>H21o</td>
<td>Global marketing, aware on IT, benefits, challenges and adoption factors will not influence export orientation</td>
<td>Path Analysis</td>
<td>Sig</td>
<td>Rejected</td>
</tr>
</tbody>
</table>

* S - Significant, NS - Not Significant
The developed GEM model illustrates that the internet and intranet modules helps to access information soon with no delay of cycle times. The information can be shared immediately within the departments and also informed to customer or supplier respectively. With the usage of feedback form the customer or supplier who wishes to carry over business can have immediate response from the merchandiser. The organizations can render effective with the usage of this model services and can also improve their business efficiently.

6.3 SUGGESTIONS

Indian manufacturing industry has all the qualities that can enhance economic development, increase the productivity and face competition from the global markets. The importance of the manufacturing sector is not just its contribution to economy, but also in generation of employment. Indian industries are known for its small and medium size purposely to utilize the labour. Due to this reason, the manufacturing industry in India, which is labour intensive, can provide the requisite number of employment units in the country. Exports of manufactured goods from India are less compared to other countries owing to the performance manifested by the export sector.

Indian textile and apparel industry is the second largest manufacturer in the world. India’s global exports of RMG during 2010-11 were of the order of US$ 11.61 billion, which increased to US$ 13.71 billion during 2011-12. As per latest available statistics, exports of RMG during April-March, 2012-13 was of the order of US$ 12.92 billion as against US$ 13.71 billion during the preceding year, indicating a decrease of 5.75% this year.
India is among the very few countries, which have a presence across the entire supply chain, from natural and synthetic fibres right up to finished goods manufacturing. It has presence in organized mill sector as well as decentralized sectors like handloom, power loom, silk, etc.

The labour unrest in the readymade garments sector in Bangladesh has put Indian apparel exporters in an advantageous position. The US and EU are diverting orders from Bangladesh to India to meet their apparel requirements for the upcoming summer season. Indian apparel exporters are making most of the situation. They are scaling up operations and negotiating deals with foreign buyers so that they can enjoy a bigger pie of the overseas markets. Exporters from Tirupur, the largest knitwear hub of the country, have bagged good export orders due to the labour unrest in Bangladesh garment sector. Bangladesh is not the sole reason for this upswing. Both the US and Europe are slowly recovering from the economic slowdown which is getting reflected in the order position (ET Bureau 2013).

E-commerce promises benefits for businesses in developed and developing countries, such as the ability to reach new international markets. However, merely adopting e-commerce will not produce these benefits. Industry structure plays a powerful role in determining success or failure of e-commerce efforts.

With the objective of accelerating growth in investments and exports; Government of India has launched several schemes, a few of them are:

- Technology Up-gradation Fund Scheme (TUFS)
• Scheme for integrated textile parks

• Development of mega cluster

• Integrated Skill Development Scheme (ISDS)

• Technology Mission on Technical Textiles (TMTT)

A manufacturer can focus on a large number of business parameters in order to improve the manufacturing competitiveness. However, the most critical parameters having significant impacts are:

• Skill up-gradation

• Technology up-gradation

• Partnerships

There is a huge potential in the apparel market and there are many factors contributing to the boom in this sector. To name a few, increased consumerism with a capacity to spend on luxury items and increased purchasing power in the hands of Indians. However, the industry has not performed to its full potential. It faces several challenges in aspects of production, marketing and supports infrastructure. The technology used in manufacturing of textile and apparel in India considerably lags behind that of developed nations and this is mainly due to lack of value addition, low productivity, low pace of modernization, economies of scale and high fragmentation. The industry also suffers due to general infrastructure related issues which lead to higher transaction costs, unreliability in transit times, etc. along with focus on limited markets, weak brand positioning of India and over dependence on cotton.
To manage today’s complex business processes IT is an essential and critical business support infrastructure. Though large number of companies have adopted IT infrastructure, studies found that majority of IT systems are transactional systems and the deployment is limited to certain functions like inventory, production planning, accounting and shop floor. Large organisations have adopted enterprise wide business packages to run their day-to-day business processes like procurement, inventory management, dispatch and financial management.

Over the last decade or so, information technology has taken a turn due to the exponential growth of World Wide Web (WWW) that has led to a more flexible and powerful e-commerce and e-business system based on the web technologies. This has led to the penetration of sophisticated technologies into small and medium businesses. It has helped in growth of many SME’s and SMB’s. In tune with the global trend, Indian SME’s are also adopting the technology at a faster rate. Indian SME’s are willing to invest in new IT solutions to improve their output and efficiency. Over the last couple of years, Indian SME’s have been adopting Enterprise Resource Planning (ERP), clubbing it with Customer Relationship Management (CRM) and sometimes even with Supply Chain Management (SCM). These small and medium enterprises have realised that to maximise the potential of available information technology, IT products must be implemented in tandem.

This study revealed the penetration of IT infrastructure especially the personal computer is high. Similarly, the availability of internet and use of email is also high. Therefore, the basic requirement is not a hindrance. However, the adoption of ERP and SCM is not so prevalent initially because of the size of the organisation. Indian industry mostly has small and medium enterprises. This is the major challenge of
ERP and SCM adoption. Many a times the small and medium enterprises
are subcontractors to a larger company. The relationship between the
company and the sub-contractor is one to one. Therefore, the job workers
and small firms do not have a complex supply chain operation. However,
the organisations require managing many suppliers and sub-contractors and
therefore will require ERP and SCM software. When the large
organisations adopt a particular IT technology, they would like the supply
chain partners to connect to it. However, because of the cost of the product
the small organisations are not ready to adopt the technology even when
their customers force them. Similar problems have been observed more in
other technology among the industries because of the cost. The need of the
hour is developing software modules for the smaller companies to connect
to their suppliers or developing web based, cloud based and SaaS model of
software for more application of IT in business processes. Since the need
of integration of supply chain partners and the technology that bridge them
is obvious.

While having a huge growth potential in domestic and
international markets, Indian knitwear garment industries are having
competitive pressures, globalization and complex business partner
relationships that are forcing organizations to adopt and expand their use of
information technology for internal business processes and for the external
relationships with buyers and suppliers. However, due to the size of the
organisations which is an important determinant in adoption of IT many
organisations in Tirupur are yet to adapt to a full-fledged technology
support for their business process. If the challenges are tackled collectively
as a cluster, the possibilities of faster adoption of technology will be
reality. The penetration of cloud model of ERP which is promoted by
Tirupur Exporters’ Association when supported by training of computer operators will have a huge impact on the growth of the industry.

Collaboration and integration among the job-working units and exporting firms in the cotton knitwear garment cluster of Tirupur are the need of the hour to exploit the full potential of the cluster. Lack of coordination among the suppliers and exporters was leading to wastage of time and that did not suit the needs of international buyers. There was international pressure on all clusters to increase the speed of production and eliminate waste. The application of information technology is essential for collaboration of various players in the industry (The Hindu 2007).

In Tirupur knitwear garment industry adopting information technology was a taboo subject, because entrepreneurs had to spend 60-80 lakh to buy software for different processes. Buoyed by a few early successes of IT adoption, the garment industry of Tirupur, which recorded cumulative business of Rs. 20,000 crores, last year, is now embracing technology more deeply. The SME’s use IT for accounting, production planning, order management and inventory management among other tasks. These services are essential to the core business. With computerisation, the SME’s can be pro-active, rather than reactive in their core business.

In such a scenario, cloud computing is a viable alternative at a cheaper investment. Technology, platform and software as services can go on cloud. The IT service offered is more affordable and flexible for the SME’s when deployed on the cloud. Several applications offered on cloud computing enable the industries to be more productive.
The Tirupur Exporters Association, through a special purpose vehicle called G-Tech Info Solutions, has collaborated with top global vendors including Microsoft, Wipro and SAP to form a common ‘cloud computing’ platform. This will automate and simplify process across domains like manufacturing, logistics, finance, human resource, customer and vendor relationship for over 4,000 SME’s in Tirupur. In cloud computing, the information is stored and processed on computers “in the clouds” or data centres, which can be tapped remotely, through a personal computer, cell phone or other device.

Textile exporters have started to use a common technology and software platform on a pay-as-you-use basis. The platform specifically made for the garment industry will bring down operational costs and help to compete effectively with rivals from Bangladesh and China. But the cloud model that is being used is unique and not available in any other part of the world. Companies just have to pay Rs. 3,500 per month for the service. The success of this model will encourage in planning rolling out the model to other textile clusters across India and foreign markets such as Malaysia and Indonesia.

The modules developed in the GEM model perform various functions and operations. The customer module consists of various sub modules like messages, product enquiry, customer order and banking. With the usage of this module the customer can view the messages for him from the organization; he can enquire about the product details i.e. variety of products manufactured. He can also view the status of his product order and even he can refine his requirement in the middle with the help of this module. The customer can also download his invoice document for the purchase order placed by him.
Thus the developed model is simple in operation and easy to use and at the same time the system is robust and free from unauthorized users. Thus the organizations can overcome hurdles like long process time and can improve the customer services, make information readily available to all the employees and also to the suppliers and customers.

6.4 CONCLUSION

With the India’s growth trends and the recent global recession, the industry production growth is directly reflected on the GDP growth. There is an urgent need to sustain the growth momentum that India had before the recession. There is a pressure for attaining a double-digit growth, which is only possible when Indian manufacturing sector competes with the Multinational companies (MNC) and the foreign companies. Textile industry in Tirupur is one of the major economic contributors to the Indian economy. It also faces severe competitions globally from countries like China, Sri Lanka, Indonesia, Vietnam, Bangladesh, etc. The study revealed that respondents have an awareness of the benefits and challenges of the implementation of IT. The companies that have an export orientation and e-business application have sustained the recession and have shown growth compared to their competitors who have not taken e-business and e-commerce more seriously. The statistical analysis of data has given insight into several problems and prospects of garment industries and provides some solutions to solve those problems. Based on the research study suggestions were given for textile industries at Tirupur to improve its performance and to run the garment industries in a successful manner by the application of IT in e-business and e-commerce.

However, with IT as the key enabler of the e-business and e-commerce, the need to address the adoption challenges is an urgent
agenda. With India’s strength in the software building, the inherent challenge of technology adoption such as organisational size, cost of the product, implementation issues etc. needs to be addressed. Major companies have achieved enormous profit by making use of information technology. Small and Medium companies can get benefit from the recent technologies such as cloud computing, SaaS etc. These technologies need to be developed exclusively to address the needs of Indian industries and their unique characteristics and culture.