Abstract of the Ph.D. Thesis

'A study of change in composition and direction of exports by Information Technology Companies in and around Pune'

1. **Introduction (Background and significance of the study)**

Information Technology (IT) companies need to be global to harness opportunities in the different global market regions. Companies focus on particular market regions for generating volume of revenue. Some companies rely on peculiar market regions for majority share of their revenue. The economic trends of year 2008 and other factors were pushing companies to shift their market region focus.

This study was proposed to identify factors affecting change in market region focus. Data was collected from respondents to find out reasons for global market region focus shifting. Various global market region focus shifting patterns were studied.

For this research questionnaire was used as an instrument for primary data collection. Respondents were Information Technology (IT) providers from Pune city. The IT companies’ response was collected about their global market region focus shifting with reference to various factors like revenue, nature of offerings (product based, service based, or combination), economic trends, market share, and so on.

Demand for IT services is driven by rapid technological advances, but spending for these products and services depends on the health of the developed economies. The profitability of the companies depends on offering technical expertise, innovative services, and effective marketing. Large companies have advantages in broad service offerings and global reach, which give them the ability to provide outsourcing services to bigger corporate customers. Small companies can compete effectively by specializing in market niches or by partnering with larger companies.

Asian countries excluding Japan are expected to grow more than twice as fast as developed economies of North America, Japan and Europe. The share of Asian countries (excluding Japan) in global GDP is likely to rise from 10 per cent in 1998 to 21 percent in 2020.
According to a report by Ernst & Young, in the next decade, Brazil, Russia, India and China (BRIC) are likely to contribute 40 per cent of global growth, while the US would account for around 14 per cent.

Composition of exports
For this research, the composition is a mixture of products & services IT companies export.

Direction of exports
For this research, the direction of exports is geographic regions to which IT companies export.

2. Overview of Indian Information Technology industry
In March 2012, India’s IT exports touched $101 billion in revenues. Worldwide IT spend was $1.7 trillion USD in 2011. IT companies mainly provide consulting, systems integration, data processing, and technology outsourcing services to business customers. Revenue comes from consulting, systems integration activities, and from outsourcing.

The Indian IT players started with cost advantage benefit and then factors like productivity, quality, and focus on high end services played major role to move up the value chain. Indian IT companies are now focusing more on innovation. Hence, the IT companies are developing their own Intellectual Property (IP) and revenue through licensing. To make India as R&D hub, entire eco system needs to be developed.

Phases in the evolution of IT industry in India
1. Initial outsourcing
2. Emergence of multiple third-party units
3. Expansion of the global footprint
4. Solutions partner for value creation and business transformation

US have been largest market for Indian IT companies. In year 2002, 69% exports were directed towards US. Since then, companies also started efforts to diversify into other countries. Hence, companies started developing their presence in European and Asia Pacific region. In year 2009, percentage of exports to US reduced to 60%.
IT exports contributed to 14% of India’s total earnings in year 2009. The IT industry helps in getting foreign currency to India. This helps in maintaining healthy trade balance and increases strength of Indian economy. For example, IT exports can help to pay more than half of India’s oil import bill. India’s IT exports were more than that of gems and jewellery, and textiles combined in year 2009! It is estimated that by 2020, IT industry may account for 18% to 20% of India’s exports.

(According to NASSCOM Report “Impact of IT-BPO industry in India”)

The IMF forecasts that the main economies will shrink and the burden of keeping the world economy moving will fall on big emerging economies like India and China. For example, a century ago Europe demanded commodities and services, attracting the world’s attention and hence growing off-shore economies and creating global wealth. Similarly, the focus is now shifting east.

3. Review of the literature

The general observations identified through the literature review are:
1. Opportunities in emerging markets like BRIC
2. Focusing on domestic market in India
3. Shifting focus away from USA
4. Impact on IT industry due to economic crises
5. Identifying new markets

The unique observations identified through the literature review are:
1. Marketers should focus on the emerging pockets of customer profitability
2. Domestic entrepreneurship drove the IT industry’s origination, survival and innovation
3. Export of software packages has been far more limited.
4. India leads all countries in exports of Information Communication Technology (ICT) services
5. Software export strategies in less developed economies are based primarily on two basic strategies of either exporting products or exporting services
6. India's potential as a hardware exporter is very limited.
7. The software industry in India developed a strong export bias based on shipping people rather than products, and has lagged domestic market.
Through the literature review it was observed that the research gaps were there.

1. Studies have been made in the area of country selection for new market entry. But there is no study done to study composition of export of IT companies.
2. There is no study done to study direction of export of IT companies.

To fill this research gap the study was undertaken. 'A study of change in composition and direction of exports by Information Technology Companies in and around Pune' is an attempt to lessen the research gap.

Here are some examples of research literature.

Author: Arto Ojala and Pasi Tyrväinen
Year: 2007
Title: Market Entry and Priority of Small and Medium-Sized Enterprises in the Software Industry: An Empirical Analysis of Cultural Distance, Geographic Distance, and Market Size
Source: Journal of International Marketing
Approximately 70% of country choices can be explained by software market size
Entry priorities shift quickly from countries within a short geographic distance to countries with high purchasing power and at a greater geographic distance.
Psychic or cultural distance, geographic distance, and market size have had a major impact on the target country selection
Firms enter into countries that are within a low geographic and or psychic distance, and after they gain more international experience, they expand into countries with a larger market size and greater psychic and geographic distance.

Author: Biradar R.R.
Year: 2009
Title: Information Technology Industry and Economic Development in India
Source: Sinhgad Business Review
The growth of IT industry in India is much faster than that of GDP
The growth of IT sector in India is mainly export-driven
Author: Dr. Nilay Yajnik
Title: Challenges for the Indian Information Technology. Industry in the New Global Order
Source: Marketing in new global order challenges & opportunities
One of the best areas for the IT Industry today to innovate is the domestic market in India. Markets such as the Banking, Financial Services and Insurance Industry (BFSI), Telecom industry and the rural markets offer a tremendous opportunity for the Indian IT Industry. The Indian IT Industry now, in its next phase of evolution, needs to look inwards again to be able to look outwards to be far ahead of the IT Industries of other countries.

Author: J.P. Jeannet & H.D. Hennessey
Title: Global Marketing Strategies
Source: Jaico Books
Every time a company decides to expand into foreign markets it must systematically evaluate possible markets to identify the country or group of countries with the greatest opportunities. Due to number of countries and resource limitations, the initial screening process is usually limited to the analysis of published data. Many possible markets are small, with little data available about specific consumer, business, or government needs. Four critical factors affecting market selection are market size and growth, political conditions, competition, and market similarity. One of the techniques for analyzing country selection criteria is to develop indices that combine statistical data and allow the marketer to look at a large number of variables quickly.

Author: A.N. Agarwal
Title: Foreign Trade; Trends and Problems
Important aspect of the trade of a country is its composition. It indicates through imports what types of goods a country lacks and how much of these it needs or is able to get. Exports bring out the fact about the goods that a country has and how much of these it can and is willing to sell. Seen over a period of time, changes in the composition of trade mirror the developments taking place in the domestic structure of production.
A noteworthy change in the composition of exports is a lessening of dependence on traditional items. There is some increase in non-traditional items pointing towards the diversification of economy that took place during this period, reflecting the growth of a variety of industries.

Direction of trade depicts the countries from which our imports come, and the countries to which our exports go. There is a decline of the UK as the principal trading partner and the emergence of new countries in India's trade map. There is a large increase in the number of countries which sell to and buy from India.

The number of countries to whom we export has increased much. However, a large proportion of exports are concentrated in a few countries.

Despite increase in the number of countries to whom we export, a major proportion of our exports are concentrated in a few countries.

Countries like South Korea, Singapore and Taiwan which adopted the strategy of export-led high-speed growth in the most recent times. This should help us in identifying the causes of their apparent success and the consequences of such an approach.

Author: Manish Bahl
Year: 2009
Title: INDIA IT MARKET PREDICTIONS 2009
Source: Springboard Research

In the IT market, multinational vendors will continue to view India and other Asia Pacific countries as critical growth markets. We expect other US based firms to transfer more resources (budget and people) into the region and set up special teams at their corporate offices to focus only on emerging markets such as India. Many of the large IT vendors are already doing this and these initiatives will continue to expand, with other mid-tier vendors also adopting this strategy.

In spite of the global economic crisis, the overall outlook of the Indian IT market was positive in 2008. The market grew 18.1% in 2008 as compared to 2007.

As Indian companies continued to make new investments in IT, the country delivered impressive growth and profits to both leading multinational and domestic vendors in 2008. For many of these vendors, their Indian revenues grew more than 50% in 2008.
4. **Research Methodology**

4.1 **Nature of research work**
This is empirical type of research. Research method followed is a case study method. Primary data was collected through questionnaire. Secondary data sources like research reports, annual reports, and other sources used.

4.2 **Objectives of the study**
1. To understand the retrospective growth of IT industry in India
2. To study the nature of composition and direction of exports of IT companies in Pune
3. To examine factors responsible for changing the composition of exports of IT companies in Pune
4. To study factors responsible for changing the direction of exports of IT companies in Pune

4.3 **Hypothesis of the study**
The American recession of 2008 had impact on the process of change in direction of exports of selected IT companies in Pune.

This was a working hypothesis only to give direction for the study.

4.4 **Scope of the study**
Geographical and operational scope of this study includes Indian Information Technology companies whose one of location base is in or around Pune.
Functional scope of this research is researching change in composition and direction of exports.
Period scope of this study is from financial year 2004-05 to 2010-11.

4.5 **Case study design**
Five companies were selected for this research. Different criteria were set for selecting cases and selected companies met the criteria and hence case studies were written on those. The criteria were uniqueness, listing on stock exchange, company’s interest in research, office in Pune, combination of products and services, and should be in exports. Persistent is Outsourced Product Development Company. Zensar is a software services company. KPIT Cummins is a technology solutions provider to manufacturing industry. TCS is a full IT services company. MindTree is an IT services and product engineering company.
4.6 Sources and methods of data collection

Primary data:
Primary data was collected through interviews. The data was collected from these five companies. The respondents were only top level executives like Chief Operating Officers, Vice Presidents, Chief Financial Officers, and Directors.

Secondary data:
Secondary data is collected from news papers, annual reports, research reports, books, journals, magazines, videos, and websites.

4.7 Analysis of the data
The general strategy used for analysis is relying on working hypothesis. Since the research design includes multiple cases, cross case analysis technique was used for analyses. In addition to cross case analysis, in each case chronologies are used as a part of time-series analysis. The data is analysed using Microsoft Excel. Exports and revenue are units of analysis used.

4.8 Limitations of the study
1. This study has a geographical constraint that it is only restricted to selective Information Technology companies whose one of location base is Pune.
2. Information Technology companies who do not have presence in Pune were not considered.

5. Findings of the study
5.1 Advantages which got the Indian IT companies to the current level of growths may not be sufficient for future growth.
5.2 The Indian IT companies predominantly relied on developed markets like US and Europe.
5.3 All the companies researched believe that collaboration at government level has limited impact on their business. Collaboration between governments of two countries can have a positive impact on IT industry.
5.4 All the companies researched set revenue targets according to industry verticals. Under each vertical, companies earn revenue through different geographies. There are number of challenges companies face in meeting the targets like economic conditions, strategy change, and so on.
5.5 All the companies researched feel that they do not face problems due to factors such as limited H1 visas. This is because almost in all the client engagements majority of work done is offshore.
5.6 For all the companies researched, Services contribute the maximum revenue, followed by Software Products & Services and then by Software Products.

5.7 All the companies researched were trying to explore new market locations for their established products and services.

5.8 American recession around the year 2008 impacted decision of some of the researched companies for process of changing direction of exports to different locations. Some of the companies researched have started focusing more on domestic India market.

5.9 The parameters majority of the companies had chosen for entering a new geographic market location are:

1. Market size
2. Growth
3. Political conditions
4. Market intelligence
5. Competition
6. Geographic distance
7. Market similarity

5.10 None of the companies have used a specific model for change in direction of exports. All companies feel that North America will still continue dominate majority of the revenues followed by Europe, and rest of the world.

5.11 For changing the composition and direction of exports companies used combination of internal and external funding whenever required.

5.12 Factors responsible for change in different export components are:

1. Economic
2. Technological
3. Social
4. Political

5.13 All the companies experienced that the composition of their exports have had impact on direction of their exports. They also experienced that the direction of their exports had impact on composition of exports. The impact of change in direction of their business was positive.

5.14 Some of the companies conducted market research for change in composition and direction of exports. Some companies faced operational difficulties due to change in composition and direction of exports. Companies were able to overcome the difficulties. All the companies also used benchmarking to decide composition and direction of exports.
5.15 All the companies had interactions with industry association like NASSCOM regarding composition and direction of exports. All the companies perceive that after five years their revenue from India will increase.

5.16 Nature of composition of exports the selected IT companies was observed as:

1. IT services include, product lifecycle services such as
   a. Research & development prototyping
   b. Development
   c. Testing
   d. Maintenance
   e. Support
   f. Deployment

   For start-ups,
   a. Installation
   b. Configuration management
   c. Globalisation
   d. Integration with other products
   e. Testing
   f. Test automation
   g. Release management
   h. Other related tasks

2. Software services include
   a. Enterprise product implementation and hosting
   b. Business intelligence and data warehousing
   c. Collaboration and knowledge management services
   d. Business process outsourcing and optimization
   e. Remote Infrastructure Management (RIM)
   f. Software application planning
   g. Portfolio building, development, migration, and support.
   h. Application development
   i. Maintenance
   j. Re-engineering and support
   k. System Integration (SI)

3. Other services include
   a. Consulting
b. Business services
c. Business Process Outsourcing (BPO)
d. Engineering & industrial services
e. Research & Development (R&D)

Storage & computing systems, communication systems, automotive, consumer appliances & computer peripherals, industrial systems, avionics, multi-markets

4. Technologies offered include
   a. Cloud computing
   b. Collaboration
   c. Data management
   d. Business Intelligence (BI) & performance management
   e. Mobility
   f. Security

5. Industries served include,
   a. Technology
   b. Telecommunications
   c. Life sciences
   d. Consumer packaged goods
   e. Banking, Financial Services, & Insurance (BFSI)
   f. Healthcare
   g. Manufacturing
   h. Retail
   i. Media
   j. Energy & Utilities
   k. Pharmaceuticals
   l. Healthcare
   m. Textiles
   n. Dairy
   o. Hi-tech
   p. Government
   q. Education
   r. Connected services
   s. Automotives
   t. Industrial equipments
u. Semiconductor  
v. Travel and transportation

6. Focus areas include,
   a. Cloud computing  
   b. Enterprise mobility  
   c. Business Intelligence (BI) / analytics  
   d. Enterprise collaboration

7. Products for industries like
   a. Retail  
   b. Cloud computing for SMEs  
   c. Small and Medium Enterprises (SME)  
   d. Technology

8. Service packages like
   a. Impact sourcing, minimum saving of up to 10% in 10 months  
   b. First Time Offshorers (FTO), a consultative approach  
   c. Shared Services Model, shared BPO and IT services  
   d. Integrated full service model to provide business solution which will include design, development, and management of software, maintaining hardware, and managing business processes. Through this model, own the Intellectual Property (IP) and using it as a solution to for other customers.

5.17 Companies used strategic concepts like Vision Communities to change composition of exports. Companies also used innovation to change composition of its exports.
5.18 Companies like TCS identified geographic growth strategies as one important aspect of its overall strategy.
5.19 For TCS, MindTree, KPIT Cummins, & Persistent revenue from US either declined or remained flat. For Zensar revenue from US gradually increased.

Graph 1: Direction of exports to US (in percentage)

5.20 For all the companies researched, revenue from Europe declined.

Graph 2: Direction of exports to Europe (in percentage)
5.21 For TCS, MindTree, KPIT Cummins, & Persistent revenue from rest of the world region is increasing except Zensar.

Graph 3: Direction of exports to Rest of the world (in percentage)

5.22 For overall Indian IT industry, revenue from US declined, from Europe is on rise, and from rest of the world is on gradual rise.

Graph 4: Direction of exports of Indian IT industry (in percentage)
6. **Suggestions**

6.1 Indian IT companies should not only wait for the recession to change its focus geographic markets. The change should be executed proactively.

6.2 Only the service export may not be sufficient to fulfil the ambitions and growth levels of the Indian IT companies. They will have to venture in to developing products.

6.3 In next decade or two, the Indian IT companies cannot only sit on laurels of the past success. They will need to design world class strategies to really become global.

6.4 The Indian IT companies will need to move beyond the client industry understanding. They will have to design its services in a way that it will provide solutions to the client’s business problems.

6.5 Factors which governed changes in composition and direction of exports may keep on changing. The companies will need to monitor these to make necessary changes.

6.6 It will be important for Indian IT companies to understand the economic cycles much better. It will help them to navigate their business in turbulent times.

7. **Conclusion**

7.1 The research provides insight in to change in composition & direction of exports of IT companies. It is evident from the study that the researched companies changed composition. Market size is the primary parameter for entering a new geographic location. Each company researched shows some different patterns of change in composition & direction.

7.2 The American recession of 2008 had limited impact on the process of change in composition and direction of exports of selected IT companies in Pune.

7.3 Changing the direction of exports to newer locations takes a lot of time to execute.

7.4 The research shows that economic is a dominant factor responsible for change in different export components.

7.5 Inorganic growth route of Mergers & Acquisitions (M&A) has impact on the composition.

7.6 Companies identified geographic concentration as a risk.

7.7 New offices were opened at different countries to tap local market.
8. Likely contribution

8.1 This study provides insight into nature of composition & direction of exports of researched IT companies.

8.2 The study is helpful to get insight into factors responsible for changing composition & direction of exports.

8.3 The study elaborates on retrospective growth of IT industry in India.

8.4 The study provides insights into geographic segmentation of researched companies.

9. Scope for further research

Following topics can be considered for further research.

9.1 Change in composition of exports of non Indian IT companies

9.2 Change in direction of exports of non Indian IT companies

9.3 Factors responsible for change in composition of exports of non Indian IT companies

9.4 Factors responsible for change direction of exports of non Indian IT companies

9.5 Business models of future for IT companies

9.6 Understanding the retrospective growth of global IT industry

9.7 Market segmentation for IT industry
10. **Chapter design of the thesis**

Chapter 1: Introduction and background of the study

Chapter 2: Overview of the Indian Information Technology (IT) industry

Chapter 3: Review of literature

Chapter 4: Research design and methodology

Chapter 5: Persistent Systems Ltd. case study

Chapter 6: Zensar Technologies Ltd. case study

Chapter 7: Tata Consultancy Services (TCS) Ltd. case study

Chapter 8: KPIT Cummins Ltd. case study

Chapter 9: MindTree Ltd. case study

Chapter 10: Cross case analysis

Chapter 11: Findings and Conclusion

Bibliography

Appendix

---

Keywords: composition, direction, exports, IT, product, service, market

SACHIN MOHAN BHIDE
Research student at
Sinhgad Institute of Management
Pune

DR. MUKUND R. TAMBE
Research guide at
Sinhgad Institute of Management
Pune

xxi