

Emerging Areas in Productivity and Quality

Track-5: Sector and Industry Specific Issues-Competitiveness of SMEs

INTERNET AND THE COMPETITIVE EDGE IN SMALL & MEDIUM ENTERPRISES (SMEs): RESULTS OF SAP-LAP ANALYSIS

Susan Sharma, Ph.D., Founder, IndianWildlifeclub.com

Sudhir K. Jain, Ph.D., Department of Management Studies, IIT Delhi

INTRODUCTION

Small and Medium Enterprises (SMEs) today face an increasing number of challenges than their counterparts two decades ago. The last decade belongs to the coming of age of internet and SMEs have taken shape, grown and disappeared in this era. Those who managed using the internet to increase their competitive edge survived and thrived. The role played by internet on SMEs in the knowledge based economy can no longer be ignored, irrespective of the existing digital divide in India. Throughout the developed world, it is now widely accepted that knowledge and innovation are engines of economic growth and that innovative SMEs are key contributors to that growth.

There is no official or universally accepted definition for an SME. In India we use the criteria of number of employees and the amount of capital invested as a means to define small and medium industries or small businesses enterprises. However, a more globally accepted norm of number of employees and revenue has been used in this paper. . SME sector is defined as firms with less than 200 employees and whose turnover is less than RS 250 million, a definition acceptable to the funding agencies including banks in the country.

SMEs are run by entrepreneurs. An entrepreneur is defined as a person who habitually creates and innovates to build something of recognized value around perceived opportunities (Bill Bolton and John Thompson, 2004). In the Indian context, a more detailed definition seems more appropriate. An entrepreneur is a person who recognizes a gap or an opportunity in the market in his /her own area of interest and passion; seizes and converts that opportunity into a workable and marketable idea; uses effort, time, money and skills to add value to the idea; takes risks to implement the idea generally in a competitive market place; and endeavours to obtain the rewards for taking risk and use of resources. (Suk Deo 2005)

Small and economically thriving countries like New Zealand and Taiwan report that 97% of the businesses in their country are run by entrepreneurs. The role of SMEs is equally impressive in the U.S.A considered the green pasture by most Indians. 80% of the economy there belongs to small businesses.

The advent of the internet has changed the rules of the game for most SMEs in the last decade. Our paper looks at empirical studies done in global SMEs which have grown/survived in the last decade. We do a ‘situation-actor-process—learning action-performance’ (SAP-LAP) analysis of the internet firms in India and arrive at some conclusions on the competitive edge provided by internet.

The term ‘innovation’ is used in this paper to include product innovations and process innovations (which may be internally focused or relate to customer service processes), and business model innovations. (Hamel, 2000).

LITERATURE REVIEW

Research in competitiveness in SMEs has slowly veered around from a resource based view (RBV) to a practice based view (PBV) of the firm. Competent practices in manufacturing SMEs are generally described as a tool to create competitiveness. Practices in combination with and when effectively linked together, can be expected to consistently improve operational performance. “Good business practices and the learning and knowledge creation developed through using them, can be thought of as the base or foundation on which distinctive capabilities and hence competitive advantage is built. Approaches to strategy in the last decade (decade of the internet) have been focused on business processes and practice and the search for ‘best practice’ in different areas. “Instead of a pyramidal, functional and hierarchical organization of business, a process based, horizontally oriented and boundary spanning organization of business activity focused on customer value and quality has been advancing. These developments have not primarily been led by theoretical ideas but practical management concepts like socio-technical system design TQM, Reengineering, Lean Production, Process improvement, benchmarking ABC and Balanced score board accounting and more recently Six Sigma approaches. (Ragnar Ahlstrom Soderling, 2005)

The focus on resources can lose sight of what the firm actually does or can do- to achieve operationally valuable goals, which is the touchstone of what it can accomplish economically.

In high velocity markets, Einhardt & Marin(2000) argue that the RBV framework breaks down as the firm must rely on dynamic capabilities in the form of simple selection oriented routines focused on rapidly seizing opportunities for more temporary and transient advantage rather than resource building and leveraging.

In the past few years, the notion of “best practice” has increasingly become recognized as a moving target.

The internet revolution or eTransformation has led to a rapid development of business model innovations and marketing strategies.

In markets where there is a high degree of competition or a large selection of substitutes available to customers or businesses, customer retention is an important aspect of marketing.

According to Brassington and Pettitt (2000), the key to developing a service is being able to provide one that is easily accessible. Christopher et.al (1994) however, argue that the challenge is to bring together quality, customer service and marketing to uphold customer satisfaction.

Service quality problems often require major effort from service suppliers over a long period of time to resolve, since service quality is more dependent on people than systems and procedures. Employees need to be more consistent in satisfying all clients and not those who are acknowledged as more important to the firm. (Djabarni, Ramdane, 2005).

E-transformation has been viewed as a strategic tool for SMEs in developed nations. However, Less Developed Countries (LDCs) can benefit more from e business according to a World Bank Report due to the following two main reasons

- Overcoming their uncompetitive ness of inefficient trade practices
- Helping them to diversify into new sectors to benefit from low labor costs

(World Bank, 2000)

SMEs are the ones who are in need of most support in the field of e-business as they strongly need the financial infrastructure and e-business support to be competitive in the open market. They can form themselves into eHubs for marketing and sales purposes and to provide each other with the financial and technological synergy needed, which will be a huge benefit to compete in the market. (Arunatileka & Arunatileka, 2004).

The seamless integration of the individual entrepreneur with the internet technology is simply and beautifully illustrated in the following diagram.

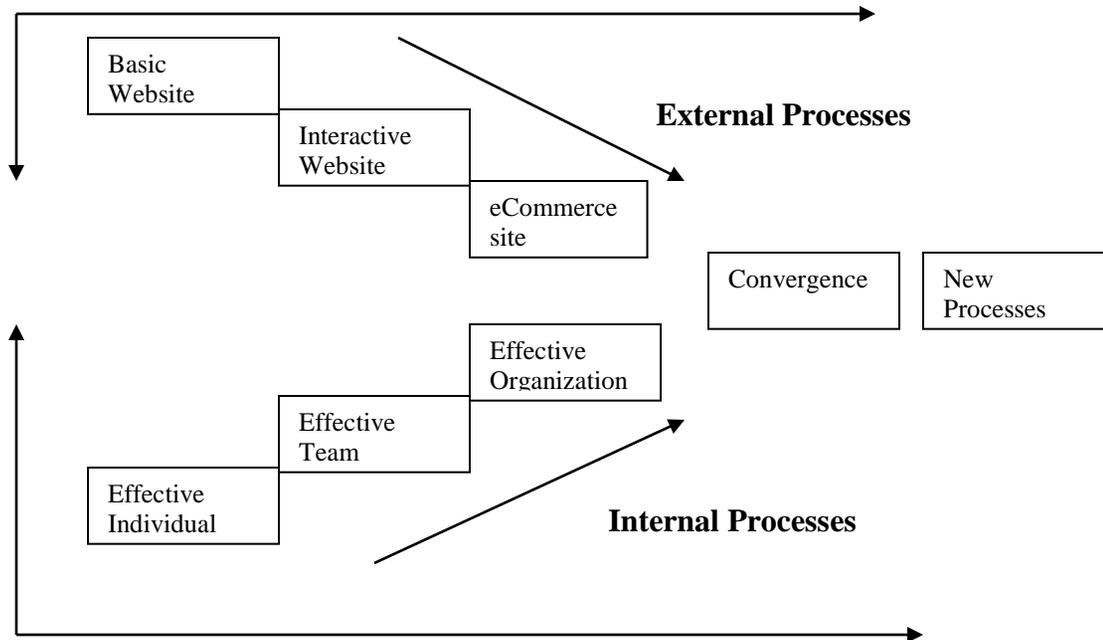


Figure 1 : e-Transformation Roadmap (Source : Ginige et.al., 2001)

RECENT EMPIRICAL STUDIES ON COMPETITIVENESS IN SMES

The traditional list of competitive priorities for SMEs are cost, quality, flexibility, delivery and innovation.

1. Use of practices as a tool to create competitiveness (Soderling, R.A., 2005)
An empirical study done in Sweden between 2001 and 2003 in manufacturing firms threw up the following interesting observations.
 - Managers that hold innovation as an important strategy factor also implement practices that support innovation and technology.
 - Market leaders who use benchmarking also seem to be more innovative in introducing new products and new processes.
2. Study of internet firms (Kickul and Walters, 2002)
 - Proactive entrepreneurs were more likely to introduce new product/service offerings and build e-commerce solutions/applications to satisfy the needs of both the organization as well as their customers.
 - They also found that many of the proactive entrepreneurs developed and implemented innovative internal business relationships or management innovations.
3. Innovation in SMEs (Baronet, J. and Gilles St-Pierre, 2005)

Exploratory research done on the innovation practices of 348 US and Canadian SMEs in different industrial sectors threw up the following observations:

- The entrepreneur's personality, defined as a combination of creativity and motivation for growth, is the most important element of all the factors favouring or hindering firm innovation.
- Firm innovation is positively related to firm growth, especially management and product innovation. However, the impact on growth was qualified according to the industries in which firms compete.

4. Role of service quality within SMEs (Djabarni, Ramdane, 2005)

One of the major problems that limit the use of the marketing function within SMEs is the lack of both sufficient financial and physical resources actually at their disposal. An exploratory study done in an SME based in London examined the large client base of this SME for service quality parameters. Here are some major findings:

- Clients valued reliability above all followed by employee responsiveness.
- The combined levels of expectations and desired service are essentially determined by the expectations of the service recipient, which in turn vary depending on the size of the organization. Larger the organization in terms of employees, greater the client service expectations.

5. Creating Innovative SMEs. (Sheldrake, Peter, 2005)

In contrast to the research on innovation and venturing in large companies, the focus of much of the research on innovation in SMEs has quite a different starting point. The challenges of dealing with routinised processes in large organizations seeking to be innovative are contrasted with the nimble, non-routinised behaviour of potentially disruptive small companies. Given this, it is not surprising to find that many of the themes in literature concerned with the innovation and entrepreneurial behaviour of SMEs are quite different, focusing on topics which include:

- The capabilities- or traits- of entrepreneurs, or business founders.
- The processes and systems that identify and allow choice between opportunities (opportunity development and opportunity analysis)
- Business planning
- Funding

Case studies done on three firms in Australia brought out the considerable resistance to change the issues being:

- While market research had identified a new market, the actual products were seen as an extension of the existing range.
- Branding was a challenge, with uncertainty over the extent to which this should be a new brand (or sub-brand), or should continue to be marketed through the existing and well-established brand.
- Entry into the new distribution channel was slower and more difficult than expected, and a reversion to the existing distribution channels was taking place.

6. Information Systems in SMEs in India (Sharma and Jain 2005)

An empirical study of knowledge entrepreneurs in India done through an online questionnaire survey brings out some interesting facts:

- Use of IT/IS is more prevalent in the trade and IT services sector compared to traditional manufacturing and services sector.
- Those who rated IT training as a major motivator to become an entrepreneur, rate better possibility of their business depending on high speed internet.
- Entrepreneurs, who rate innovation of product/services high also rate dependence on high speed internet high, also rate their expertise in IT high.
- Those who rate high on entrepreneurial index also rate high on expertise in IT rate high their use of IS.

7. Mechanisms for nurturing innovative SMEs. (Sarfranz A. Mian et.al, 2005)

In North America, science parks and incubators are the main mechanisms that have been employed over the past 25 years for providing enabling “incubation spaces” for the creation and growth of SMEs. Science parks and incubators are generally established through collaboration among university, industry and government, and are aimed at promoting technology diffusion into the local economy (Etzkowitz 2002).

6. A performance measurement system for SME networks (Varamaki, Elina et.al ,2005)

SME-networking is common and perspectives become clearer while considering the networks as entities. A network-level performance measurement system emphasizes win-win situations in the network between the leader enterprise and the other members of the network.

The issues enabling success of the network are:

- The values and culture of the network
- Resources, competencies
- Modes of action of the networks

The profitability of the activities can be divided into:

- The profitability of internal processes
- Customer satisfaction
- Financial key ratios of the network.

LOGICAL INFERENCES FROM ABOVE STUDIES

Is there a common thread running through the conclusions in the above studies? Examined carefully, we do find common aspirations in SMEs, irrespective of where they are operating from. This common aspiration is the need to innovate. Innovate to compete, innovate to improve reliability, innovate to grow, innovate for client servicing and innovate by networking with other SMEs. It is in this scenario that we have to view the Internet revolution.

When finance and size became constraints to grow, SMEs begin networking or coming under the umbrella of a Science or Technological Park.

Many SMEs and 'would be' SMEs enthusiastically embraced the new technologies. Some opted for Internet as the new resource to base the SME upon. Internet was the Resource on which these SMEs were built. Research studies showing SMEs moving from a resource based view to a practice based view, were soon forgotten. Venture capitalists jumped in to back up enthusiastic entrepreneurs with funds. A brief history of significant internet developments of the last decade is given below in Table 1.

SAP-LAP ANALYSIS OF THE INTERNET COMPANIES DURING 1995-2005

Coming back specifically to internet firms in India, we do a comparative study of the successful and failed firms of the last decade using the SAP-LAP analysis (Sushil, 2000).

In the SAP-LAP model, we frame critical questions about the situation, actor, process, learning, action and performance. Basically, the SAP-LAP model inquires about what is happening in the situation, what are the relevant characteristics of the actor(s) that relate it with the situation as well as the process. The process is also analysed by asking the relevant questions so that the major areas of

learning then become apparent. Actions can then be suggested and the performance indicators examined to arrive at a strategic model for future SMEs in the internet sector.

Table 1: A Brief History of Internet with Significance to SMEs

Year	Significant happening	SME reaction in India
1995	Incorporation of Yahoo.com, Amazon.com; Windows 95 and Internet Explorer launched; VSNL launches dial-up internet access	Academic institutions embrace internet for accessing information and communicating
1996	Hotmail invented; Google search incorporated	Using email for communication becomes widespread among internet users
1997	Online banking becomes a reality in India	E-commerce possibilities become real
1998	End of VSNL monopoly; Internet explorer and google search assume centre stage for information transmission and search	Internet as the cost effective and fastest medium for doing business recognized
1999	Venture capital funds come to India for investing; Information portals highly valued (e.g. IndiaWorld)	Entrepreneurs line up for VC funding
2000	Computerization of stock exchanges changes the nature of retail trading; PC penetration in India goes up; IT Act 2000 born	Funds from VCs generate internet based business ideas aimed at fast growth through advertisements; Basics of business values forgotten.
2001	Internet firms busting abroad; Cyber crime goes up; Online railway booking started in India.	While visibility of internet SMEs increases, Government departments and public sector follow a quiet computerization drive; Many dotcoms in India go belly up
2002	Mobile services launched in India	The dotcom burst is final; The ones that survived, change their strategies
2003	E-ticket booking and voice to voice calling become popular	Internet firms which combine online and offline activities come up
2004	PC usage goes up with regional penetration; Cyber cafes help spread internet usage	Internet becomes a salient feature of more and more SMEs; Is it seen as increasing competitiveness?
2005	Mobile telephony takes off; Decreasing cost of bandwidth	New horizons open up for internet based firms in mobile and internet communication

Table 2: SAP-LAP Analysis of Successful SMEs in the Internet Era Spanning 1995-2005

	Contests2win.com (1998)	Hungama.com (2000)	Indiagames.com (1999)	JobsAhead.com (1999)	MakeMyTrip.com (2000)
Situation	Internet availability, PC penetration and the communication revolution				
Actors	Alok Kejriwal and a host of venture funds	Neeraj Roy; Stake of promoter since bought back	Vishal Gondal and Investors; Majority stake sold to Chinese firm in 2004	Puneet Dalmia and investors acquired by Monster.com in 2004	Deep Kalra; Bank investments came in 2005
Processes	Initial: Hosting online contests Current: Facilitating brand interaction through internet, mobile and fixed line telephones	Initial: Online advertising Current: Supplementing digital interface with a large physical presence	Initial: Online games site with advertising revenue model Current: Games developer	Initial: A youth portal with focus on eyeballs and ad revenues Current: A jobs site	Initial: Online ticketing for outbound and inbound tourism Current: Focus on inbound tourism
Learning	Dotcom meltdown in 2001; From mere hosting to creating contests	Dotcom meltdown in 2001; From mere digital to physical plus digital	Dotcom meltdown in 2001; No longer a dotcom	When founders realized 80% of the traffic was going to the jobs channel, they decided to focus just on recruiting for jobs	Indian outbound and domestic markets are not really net-ready
Action	Designing promotions which evoke a response from customer	Creating promotional campaigns on the net and mobile; Integrates online and offline promotions	Mobile gaming for international market; Access to Chinese Market through sale of stake	Converting the business model from attracting eyeballs to selling job opportunities	Shifted focus to inbound tourism, shifting control from travel agent to customer
Performance	Revenues: Rs 22 crores Net Profit: Rs 4.4 crores	Revenues: Rs 17.6 crores Net Profit: N.A.	Revenues: Rs 22 crores Net Profit: Rs 6.75 crores	Revenues: Rs 15 crores Net Profit: Rs 6 crores	Revenues : Rs 12 crores Net Profit : Rs 1.25 crores

Table 3: SAP-LAP Analysis of Failed SMEs in the Internet Era Spanning 1995-2005

	Ideasnyou.com	Caltiger.com	Broadcastindia.com	Firstandsecond.com	PurpleYogi.com
Situation	Internet availability, PC penetration and the communication revolution				
Actors	Ashok Jain, Ashok Wadhwa and Rama Bijapurkar	Kolkatta based new economy venture	Nalini Singh and Sukaran Singh	G.B.S Bindra	Rakesh Mathur
Processes	Initial: Four channels – a health product site, a peer-to-peer site, cricket and community Current: Full fledged healthcare communication firm “goodhealthnyou”	Initial: Free internet service provider; ad revenue model Current: Tried internet telephony	Initial: News channel with streaming audio and video Current: Did not take off	Initial: Set out to become India’s Amazon.com Current: Limited to books and music	Initial: Personalising the internet experience Current: Produces search and mining software
Learning	Dotcom meltdown in 2001	Dotcom meltdown in 2001	Dotcom meltdown in 2001	Dotcom meltdown	No longer internet based
Action	Shut down	Shut down	Shut down	Offline/online existence	Produces software for the legal industry
Performance					

CONCLUSIONS

It is obvious from the Table 2 and Table 3 that the failed Internet firms looked at internet as a resource whereas the successful firms considered the Internet as a tool to improve practices. Internet was recognized as a tool to improve known practices which lead to greater productivity of firms. The arrival of Internet did not in any way rewrite the rules of quality and productivity. It simply made the rules easier to implement and the processes faster to execute. The easier access and communication capabilities of the Internet brought down costs considerably for SMEs. This sector recognized the new tool as the affordable aid for achieving competitive edge.

New firms who worked on their business plans taking into account the availability of internet as a tool, flourished. Those who wrote their business plans taking the Internet as the main (and only) resource, failed.

Thus, it can be concluded that internet was not a quantum leap in innovation as many would believe, but a giant step in improving SME best practices.

REFERENCES

Arunatileka, Shiromani & Arunatileka, Dinesh (2004) '*E-Transformation as a Strategic tool for SMEs in Developing Nations*' Proceedings of the International Conference on E-Governance IIT Delhi, edited by M.P Gupta

Baronet, Jacques and Gilles St-Pierre (2005) Innovation in SMEs: Who? What kind? With What Effects? Preliminary Results of an Exploratory Study' Paper presented at the ICSB2005 World Conference, Conference Proceedings

Bolton,B & Thompson,J (2004) '*Entrepreneurs Talent, Temperament, Technique* (Second Edition) London, Boston, New York; Elsevier Butterworth Heinmann

Brassigton,F.,& Pettit,S. (2002) *Principles of Marketing*. London: Financial Times Prentice Hall

Deo, Sukh (2005) 'Challenges for Small Business Entrepreneurs: A Study in the Waikato Region of New Zealand' Paper presented at the ICSB2005 World Conference, Conference Proceedings

Djebarni, Ramdane et.al (2005)' An Investigation into the Role of Service Quality within SMEs' Paper presented at the ICSB2005 World Conference, Conference Proceedings

Eisenhardt,K & Martin,J (2000) Dynamic Capabilities: What are They? *Strategic Management Journal*, Vol.21, pp.1105-1121

Etzkowitz, Henry (2002) Incubation of Incubators: Innovation as a Tripple Helix of University-Industry-Government Networks, *Science and Public Policy*, Vol.29, No.2, pp 115-128

Ginege A., et al. (2001) A Roadmap for Successfully Transforming SMEs into E-Businesses, *Cutter IT Journal*, Vol. 14

Hamel,G (2000) '*Leading The Revolution*' Cambridge, Mass: Harvard Business School Press

Kickul, Jill and Joana Walters.(2002) 'Recognizing New Opportunities and Innovation. The Role of Strategic Orientation and Proactivity in Internet Firms' *International Journal of Entrepreneurial Behavior & Research* 8(6): 292-308

Sarfraz A. Mian et.al (2005) 'Building Mechanisms for Nurturing Innovative SMEs: Lessons from the North American Science Parks and Incubators' Paper presented at the ICSB2005 World Conference, Conference Proceedings

Sharma, Susan and Sudhir K Jain (2005)' Information Systems in Small and Medium Enterprises in India' Paper presented at the ICSB2005 World Conference, Conference Proceedings

Sheldrake, Peter (2005) 'Creating Innovative SMEs: Is Copying the Sincerest Form of Flattery' Paper presented at the ICSB2005 World Conference, Conference Proceedings

Soderling,R.A (2005) 'The Use of Practices as a Tool to Create competitiveness' Paper presented at the ICSB2005 World Conference, Conference Proceedings

Sushil.,(2000) 'SAP-LAP Models of Enquiry, *Management Decision*, 38(5), pp 347-353

Varamaki, Elina et.al (2005) 'A Performance Measurement System for the SME Networks' Paper presented at the ICSB2005 World Conference, Conference Proceedings