



A Study of Creativity & Innovation in Managing E-Business Operations: A Focus on Entrepreneurs

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ABSTRACT

This paper aims at exploring the critical dynamic capabilities of Entrepreneurs in the innovation process to managing e-business and at identifying the dynamic capabilities that enable the implementation of open innovation practices. To link dynamic capabilities to an open innovation approach undertaken by entrepreneurs to managing the operations of e-business. The study extends existing work on innovation in the business by identifying key dynamic capabilities in the context. Research provides empirical evidence of dynamic capabilities in practices, where analysis reveals that companies with strong sensing, seizing and reconfiguring capabilities are more inclined to develop open innovation approaches in managing the e-business operations. Innovation has become one of the important mainstays in today's fast changing business world. To sustain competitive advantage, organizations need to keep up the pace of innovation demanded by rapidly changing technology, customer's needs and extensive competitive pressure. Indispensable for the creation of successful e-business, innovation is an entrepreneur's knowledge and its capabilities to absorb, integrate and create new knowledge as innovation arise from the knowledge available for the innovation activities and the ability to apply available knowledge. Companies nowadays are more and more globally dispersed and thus need to find solutions for letting this knowing practices take place in an online and virtual environment.

KEYWORDS

Creativity and Innovation, E-business and E-commerce, Shopping-cart technology Technology Adaptation and Appropriateness

INTRODUCTION:

Creativity and Innovation:

Innovation can be generated through creative process. History of human civilization is full of innovation of different types. Technological innovation has changed the pattern of human lives. In the present globalised and competitive environment, in which customer's aspirations are increasing day-by-day, every forward looking company is trying to satisfy its customers' needs in innovative ways. Innovation is the process of creating and doing new things. Virtual collaboration offers the possibility to include more employees in activities and decision making processes, especially from other countries or other departments. For innovation activities this means that more knowledge becomes accessible and can be used in this process. Innovations are new ways to achieve tasks. Type of innovations includes:

- a) Mechanical: tractors, cars.
- b) Chemical: pesticides.
- c) Biological: seed varieties.
- d) Managerial: IPM, extra pay for work, overtime.
- e) Institutional: water user's association, patents, banks, stock market, conservation and districts, monks.
- f) It is useful to distinguish between process innovation (new biotechnology procedures) and product innovations (BT cotton)

Innovation Process: Innovation starts as a "concept" that is refined and developed before application. Innovations may be inspired by reality. The innovation process, which leads to useful technology, requires: Research, Development (up-scaling, testing), Production, Marketing, Use, Experience with a product results in feedback and leads to improved innovations.

Stakeholders in the innovation process:

- 1. Universities, including research scientists, university administrators, and designated officers of technology transfer.
- 2. Entrepreneurs, including start-up companies and venture capitalists.

- 3. Incumbent corporations.
- 4. Potential technology adopters and downstream producers who will use the technology.
- 5. Government regulators.
- 6. Environmental and other special interest organizations.
- 7. Consumers.

Introduced Innovation: Innovation respond to need and economic conditions. Inventors, Investors, and researchers put effort into solving burning problems and that lead to innovations.

- 1. Labour shortages led to mechanized equipment
- 2. Drought conditions led to improve irrigation
- 3. Energy crises led to high efficiency cars
- 4. Farmers' cooperatives were established during periods of excessive low farm prices.
- 5. Environmental regulations trigger cleaner technologies:- A tax on carbon will lead to improved stoves and power plants.

Various Types of Innovators: In the past most innovations were introduced by practitioners. Even now practitioners are important innovators. They identify to meet needs. The scientific discoveries of the late 19th century gave rise to science based innovations (Edison, Bell, and Marconi). Major companies (IBM, Sony, Kodak, Bell, and GM) built their own research labs. Public sector labs made important agricultural and environmental discoveries. Universities and start up companies are becoming major sources of new innovations. The ownership of a technology and leadership in its applications move between organizations overtime.

Incentives for Innovation:

- a. Patents: Awards monopoly right for 17-20 years. Patent protection allows publication of research findings that leads to innovations. Patent rights (for certain applications) can be transferred. Patents are valid only where they are registered.

- b. Copyright protection: Pertains to books, brand names and the media.
- c. Trade secrets: Protects against thefts.
- d. Plant breeders' right: Allows exclusive sales of varieties and allows farmers to reduce seeds.
- e. Prizes: Awarded to winners of a contest for finding a technical solution to a problem. Indigenous knowledge is poorly protected

E-business and E-commerce:

By Andrew Bartels (2000) E-business and E-commerce are terms that are sometimes used interchangeably, and sometimes they are used to differentiate one vendor's product from another. But the terms are different, and that difference matters to today's companies. In both cases the 'e' stands for 'electronic networks' and describes the application of electronic network technology- including internet and electronic data interchangeable (EDI)-to improve the change business processes.

E-commerce covers outward-facing processes that touch customers, suppliers and external partners, including sales, marketing, order taking, delivery, and customer service, purchasing of raw materials and suppliers for production and procurement of indirect operating expense items, such as office supplies. It involves new business models and the potential to gain new revenue or lose some existing revenue to new competitors. It is ambitious but relatively easy to implement because it involves only three types of integration:

Vertical integration of front- end Website applications to existing transaction systems.

Cross-business integration of a company with Websites of customers, suppliers or intermediaries such as Web-based marketplaces. And

Integration of technology with modestly redesigned processes for order handling, purchasing or customer service.

E-business includes e-commerce but also covers internal processes such as production, inventory management, product development, risk management, finance, knowledge management and human resources. E-business strategy is more complex more focused on internal processes, and aimed at cost savings and improvements in efficiency, productivity and cost savings. E-business strategy is also more difficult to execute, with four directions of integration:

Vertically, between Web front-and back-end systems.

Laterally, between a company and its' customers, business partners, suppliers or intermediaries.

Horizontally, among e-commerce, enterprise resource planning (ERP), customer relationship management (CRM), knowledge management and supply chain management systems.

And downward through the enterprise, for integration of new technologies with radically redesigned business processes, lower cost and potentially greater profits.

E-commerce and e-business both address these processes, as well as a technology infrastructure of databases, application servers, security tools, systems management and legacy systems. And both involve the creation of new value chains between company and its customers and suppliers as well as within the company itself. All companies should have an e-commerce strategy. (Governments should have an e-public service strategy) Electronic networks in general and the internet in particular are too important for firms to ignore if they want to interact with customers, suppliers or distribution partners. But some companies need to move beyond e-commerce and form e-business strategies-especially large companies that already have links to EDI networks or have complete major ERP implementations. These companies have already reaped some of the biggest benefits from e-commerce strategies.

They are also likely to experience organizational pain as conflicts develop among their ERP, EDI, supply chain management and e-commerce strategies. And last they have enough experience and knowledge in electronic network technologies- and in process redesign and integration- that they have a chance of being successful in an e-business strategy.

Still the coordination and organizational obstacles to developing an e-business strategy are formidable. It involves major and potentially disruptive organizational change. The risks of failure and the consequences from limited success are higher in an e-business strategy than in an e-commerce strategy. Being a leader in e-business can contribute to long term success, but the stresses and strains of business transformation can cause near-term damage.

Shopping-cart Technology: one of the most commonly used e-commerce enables in the shopping cart. This order-processing technology allows customers to accumulate items they wish to buy as they continue to shop. Supporting the shopping cart is a product catalog, which is hosted on the merchant server in the form of a database. The merchant server is the database storage and management system employed by the merchant. A database is a part of the merchant server designed to store and report on large amounts of information. For example, a database for an online clothing retailer would typically include such products specifications as item description, size, availability, shipping information, stock levels and on-order information. Database also store customer information, such as names, addresses, credit card information and past purchases. The **Amazon.com** feature explains these technologies and how they are implemented. While shopping cart technology offers consumers the convenience of quick and easy transactions, it creates problems regarding consumer privacy and online security.

Technology Adaptation and Appropriateness:

Rarely is the same technological solution optimal everywhere. The value of an innovation depends on socioeconomic, climatic and ecological specifics. Important innovative activities adapt technological solutions to specific conditions. Export of technologies across regions without adaptation may lead to negative environmental side effects and waste. A technology may have several versions to meet needs and capabilities of various users in a region, ex. large vs small farmers' version of machinery. The establishment of an innovative capability starts with a buildup of capacity to support and adopt innovations and new technologies. Why Universities do not do what companies do and why Companies do not do what Universities do:

Uncertainty: uncertainty outcome of basic research.

Inappropriability or nonmarketability: some results from basic research are not appropriable, because they occur at such fundamental levels of scientific analysis.

Spillovers: some results from basic research can easily spill over to competitors in the same line of business that the results may actually help the competitors more than they help the company that conduct the initial research. Institutional arrangements: Incentives to universities researchers: Formulas for the allocation of OTT revenues from license royalties:

Most common formula: equal sharing among the university (33%), the department (33%), and the employee inventor (33%).

Another common formula: 50%-50% sharing between the university and the inventor.

Average net revenue distributions: university (35%), department (25%) and faculty inventor (40%).

Adoption and Diffusion: The use of new technologies spreads gradually. There is a significant time lag between the time a new innovation is introduced and when it becomes widely

used by producers or consumers. Diffusion is the aggregate process of product penetration. It is measured by the percentage of potential users who actually adopt a technology. Diffusion curves measure aggregate adoption as a function of time. They tend to be S-shaped. Adoption is decision by a specific individual to use a technology. Diffusion is aggregate adoption. Stages of diffusion: 1) **Early adopters:** More educated, innovative individuals who gain from technology. 2) **Followers:** The majority of adopters who see its success and want to join it. 3) **Laggards:** Less advanced individuals who either do not adopt or adopt very late or may lose because of the technology.

Technology Reemergence: Creating new value of old innovations by *Carmen Nobel (6 Jan 2014)* "Every once in a while, an old technology rises from the ashes and finds new life". *Ryan Raffaelli* explains how the Swiss watch industry saved itself by reinventing its identity. "Out with the old, in with the new! That's the natural path of Innovation." PCs killed typewriters, for instance. Smartphone's superseded telephones, pocket calculators and point-and-shoot cameras. Every once in a while, though an old technology rises from the ashes and finds new life: a reemergence. Take for ex, the mechanical wristwatch. Swiss watchmakers dominated the industry for centuries until the mid 1970s, when the Japanese introduced low cost production methods to manufacture highly accurate quartz watches. Swiss business historians refer to this as the "Quartz Crisis". Companies like Seiko and Casio seized the quartz market. By 1983, two-thirds of the watch industry jobs in Switzerland had disappeared, and the country was producing only 10 percent of the world's watches. Yet Switzerland has reemerged as the global leader of watch exports (by export value), due to a new found market demand for old style mechanical watches. Key concepts include:

- The value of some products may go beyond pure functionality to embrace non-functional aspects that can influence consumer buying behaviours.
- Introducing a new technology is not always the only way to get ahead of the curve when older technologies or industries appear to be reaching the end of their life.
- Industries that successfully re-emerge are able to redefine their competitive set- the group of organizations upon which they want to compete and the value proposition that they send to the consumer.
- There is significant interplay among community, organization and product identities.
- Swiss watches as well as fountain pens, streetcars, independent bookstores and vinyl records- are all examples of technologies once considered dead that have rematerialized to claim significant market interest.
- For Swiss watchmakers, "who we are"(as a community) and "what we do"(as watch producers) were mutually constitutive and may have been a potent force in the processes that sought re-coupling in the face of the de-coupling precipitated by technological change.
- Although new or discontinuous technologies tend to displace older ones, legacy technologies can re-emerge, coexist with and even come to dominate newer technologies. Core to this process is the creation and recreation of product, organization and community identities that resonate with the reemergence of markets for legacy technologies.
- Substantial economic change may not be contained only within organizational or industry boundaries, but also extend outward to include broader forces related to field level change.

Research Methodology: For perusing any research there should be a proper research methodology. A detailed plan of the research methodology is provided below:-

Research Problem: The research Problem of the study is: "A study of Creativity and Innovation in managing e-business operations: A focus on Entrepreneurs".

Objectives of the study: The main objective of the study is to measure the value of Creativity and innovation in e-busi-

ness conducting Entrepreneurs in the corporate culture. However the specific objectives are as follows:

To study the value of creativity and innovative ideas on different parameters in managing e-business operations in entrepreneurs.

To find out relation between these parameters and their impact on creativity and innovations.

Period of study: The period of study is confined to 2012-2013 as no data is available after this period of the selected companies.

Sampling Techniques: Sampling technique used is convenient sampled technique. Sample of Study: The overall study is confined to 30 units of Rajasthan was considered as target population.

Sources of Data Collection: The data used for this study is primary data. Questionnaire sent to selected companies and on that basis data is collected and analyzed.

Data Analysis: To process the data scientifically and to make it easily understandable statistical method of tabulation is used. Compilation of data was done with the aid of computers. MS-Excel was used for data processing and presentation.

Every research conducted has certain limitations. The limitations of this study are as follows:

Although 30 companies are being taken in to consideration, still data collected is about the present number of employees working in organization. There is no information of past employees.

The study being corporate sector or company specific cannot be generalized. **Measurement of the Creativity and Innovation in managing e-business operations in entrepreneurs:**

Q.1 How would you rate the Creativity and Innovative ideas in managing operations in e-business on developing strategic leadership abilities of the top management team of your business on the basis of type of industry?

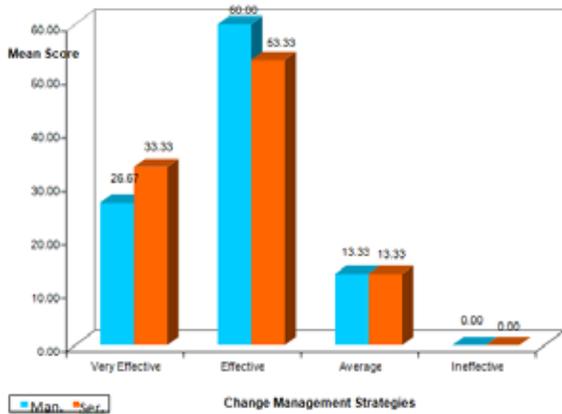
Response	Service		Manufacturing	
	N	%	N	%
VeryEffective	6	37.50	3	21.43
Effective	8	50.00	9	64.29
Average	2	12.50	2	14.29
Ineffective	0	0.00	0	0.00
Total	16	100.00	14	100.00

50% service organizations and 64.29% manufacturing organizations agreed that the effective and 37.50% service and 21.43% manufacturing organizations agreed very effective Creativity and Innovative ideas in managing operations in e-business to develops strategic leadership abilities of the top management team in their business.

Chi square test

χ^2	df	Result
0.930	2	NS

The chi square result shows that the creativity and innovative ideas in managing operations in e-business to develops strategic leadership abilities of the top management team in their business is independent of type of the organization in rating of creativity and innovative ideas in management ($\chi^2=0.930$, $p>0.05$). Hence it can be said that whether company will develop strategic leadership abilities of the top management team in their business, is not dependent upon type of the company



Q.2 How would you rate the Creativity and Innovative ideas in managing operations in e-business to developing strategic leadership abilities of the top management team of your business on the basis of age of industry?

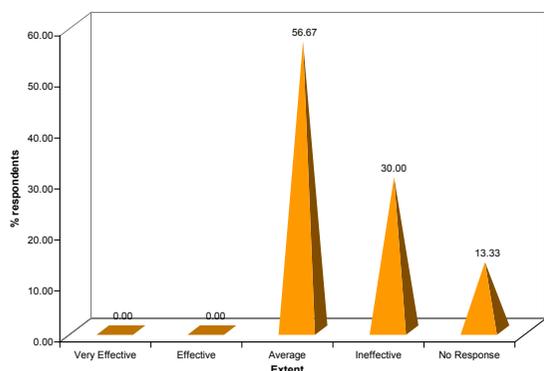
Response	New		Old	
	N	%	N	%
Very Effective	4	26.67	5	33.33
Effective	9	60.00	8	53.33
Average	2	13.33	2	13.33
Ineffective	0	0.00	0	0.00
Total	15	100.00	15	100.00

60% new organizations and 53.33% old organizations agreed that the effective Creativity and innovative ideas in managing operations in e-business to develops strategic leadership abilities of the top management team in their business.

Chi square test

x ²	Df	Result
0.170	2	NS

The chi square test result shows that the creativity and innovations in managing operations in e-business to develops strategic leadership abilities of the top management team in their business is independent of age of the organization in rating of creativity and innovations ($x^2=0.170, p>0.05$). Hence it can be said that whether company will develop strategic leadership abilities of the top management team in their business organization, is not dependent upon age of the company

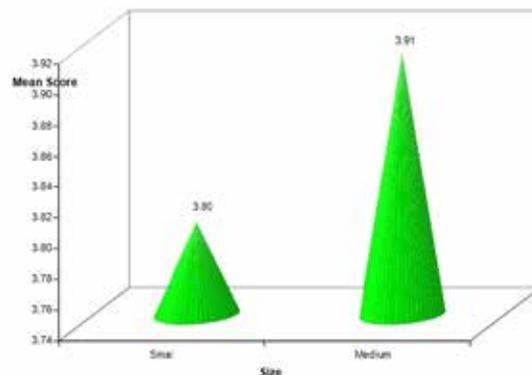


Hypothesis: There is non significant difference in the level of change management tools and techniques adopted by medium and small size e-business conducting entrepreneurs.

Creativity and innovative Tools and Techniques in Small and Medium Entrepreneurs

Size	N	Mean	SD	T	df	Result
Small	18	3.80	0.48	-0.650	27	NS
Medium	11	3.91	0.40			

Test results given above shows that there is no significant difference in the level of creativity and innovative tools and techniques adopted by the entrepreneurs whether it is of medium size or small size e-business conducting company ($t = -0.650, p>0.05$). Hence it can be concluded that creative and innovative tools and techniques adopted by the companies are independent of size of the companies and the null hypothesis is accepted.



Conclusion:

Test of significance of means between 'Service' and 'Manufacturing' e-business conducting organizations in aggregate and factor-wise Creativity and Innovations in entrepreneurs showed that they do not differ significantly.

Test of significance of means between 'New' and 'Old' e-business conducting organisations in aggregate and factor-wise Creativity and Innovations in entrepreneurs showed that they do not differ significantly.

Test of difference of mean between 'Medium', and 'Small' e-business conducting organisations in aggregate and factor-wise Creativity and Innovations in entrepreneurs showed that they do not differ significantly.

In the analysis done **size-wise** the 1st rank was accorded to 'Competition from other existing e-business conducting organisations in industry' and 'Supplier bargaining Power' in case of *medium sized and small size* organisations.

When analysis was done on **type-wise basis** *manufacturer and service* both type of organisations accorded highest rank to 'Competition from other existing e-business conducting Organization in Industry' 'Supplier bargaining Power' got the last priority.

When analysis on **age-wise basis** was done it revealed that 'Competition from other existing e-business conducting organization in industry.' was the first rank for *new and old* business organisations, while 'Supplier bargaining Power' got the last priority.

***Note:** This analysis reveals that the top management is continuously progressively monitoring the external environment and is aware of all the factors that are in the vicious circle.

Suggestions: To the e-business efficacy following suggestions kept in the mind:

- 1) Large sized business Organization must refine their customer and employee focus Strategies by regular review of key customers.

2) The large sized business Organizations are suggested to arrange for key customers contact with the top management and down to the hierarchy.

3) For small businesses top management must keep in mind and instruct the research and development to focus their product/service development on customers Strategic needs.

4) 'Diversifying' may be one of the Strategies for optimum utilization of the expensive quality, adopted by large sized organizations.

5) The top management must further ensure Enterprise Resource Planning inputs to regular Strategy reviews. Also, develop ERP awareness as business opportunity at senior manager level.

6) There must be existence of a business-wide sense of purpose and motivation. People development must be the key constituent in Strategy.

7) Formal Personal Development programmes, Training, Seminars and Conferences have been stressed by all level of managers in this Research. Also it came up that it must be kept in mind that conscious effort is given to all employees relevant skills at best practice standards.

REFERENCES

- Michele Grimaldi, Ivana Quinto and Pierluigi Rippa 16 DEC 2013 "Enabling Open Innovation in Small and Medium Enterprises: A Dynamic Capabilities Approach" Knowledge and Process Management vol20, issue4, page 199-210 | ➤ Bartels Andrew, 2000, 30 Oct. "The difference between e-business and e-commerce", computer-world, Giga information Group Inc. | ➤ Xiaojuan Wen, Chi Huang, " The impact of uncertainty avoidance and organizational culture on Management Innovation" IEEE, 2012, pp331-334 | ➤ Arora Anju, 2012, "The Impact of size on CRM Strategies in Commercial Banks: Empirical Evidence from India", The IUP Journal of Financial Risk Management, Vol. IX, No. 3, Sept. ISSN No. 0972- 916X, pp.- 24. | ➤ Samir Rajan Chatterjee, "Managerial Ethos of the Indian Tradition: Relevance of a wisdom model" Journal of Indian Business Resaerch, Vol.1, 2009, pp 136-162 | ➤ www.iccwbo.org/News/Articles/2014/Research-paper-explores-benefits-of-open-innovation-to-business | ➤ www.hbswk.hbs.edu/topics/innovation.html | ➤ www.gdrc.org/sustbiz/what-are-smes.html |