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Innovation Practices of Small and Medium Scale Enterprises in Madurai Region, India - A Case Study

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Abstract: This paper explores the determinants of innovation in small businesses from a survey covering fifty self-employed people in and around Madurai in India. Self-employed people running businesses with and without employees were included in the study and the types of innovation were differentiated. The business units selected were classified as small scale enterprises owing to their investment and capital structure. Though the units considered for the study are suppliers catering the needs of other industrial units their involvement in innovation practices and its impact is studied. The Education of the people running the business is considered as a vital factor as it has impact on the innovation practices and management style. The purpose of this study was to find out the major constraints in running small and Medium Scale Enterprises pertaining to innovation practice. The methodology adopted in this study was a random sampling of 50 self-employed people. The findings of the study indicated that the major barriers to implement innovation in **small and medium scale enterprises** are lack of infrastructure, financial deficiency, technical and professional constraints, and uncertainty regarding return on investment, inexperience and lack of awareness and need to practice innovation. The limitation of the study is that the sample size of small and medium scale enterprises selected was small to generalize the results.

Keywords: Innovation; Small business enterprises, Experience, Chi square, Percentage analysis.

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1. Introduction

Innovation, the next step of creativity is the boon to economic development in today's industrial and business scenario. Though the concepts innovation and creativity look similar they are different. Creativity means generation of new ideas and innovation means the translation of a new idea into a company or a new product or a service. The main need of innovation is to face challenges of globalization and liberalization. A company that focuses on innovation fosters towards consistent growth. A company that does not involve in innovation cannot remain in business on the longer run. Innovation is a company wide culture and everyone should be involved in this culture and top management must encourage and provide a climate for the people to involve in activities that develop innovation. The present day knowledge economy demands knowledge intensive companies which can only survive in the stiff and intense market competition. As knowledge resides only in the human mind it can only be harnessed by focusing on increasing human capabilities through the process of increased communication, co-operation and linkages both within the enterprise as well as across enterprises and knowledge producing organizations. Innovation networks, establishment characteristics and the regional environment are likely to play different roles in product innovation in enterprises of different size (Charlie and Ola, 1998). In industries, where innovative activity and especially the innovative activity of small firms, plays an important role, the likelihood of new entrants surviving over a decade is lower than in industries where innovative activity is less important. At the same time, those entrants those are able to survive exhibit higher growth rates (Audretsch, 1995). The present world of globalization is characterized by rapid changes and increased complexity, uncertainty and competition. It is indispensable for organizations to adapt in their external environment and to remain competitive. Adaptability and competitiveness is intimately related with their creativity and capacity to innovate (Varies and Littunen, 2010).

2. Innovation and Creativity

Creativity is the use of mental ability for developing a new thought or concept. It can also be said as a thinking process that solves the problem in a useful and innovative way. Innovation, in Stephen and Timothy (2007) opinion, is the process of applying creative idea and changing it to product, services and new ways of operations Stephen and Timothy (2007). Koontz and Heinz (2004) believes that innovation can be a new product, a new service, or a new solution for doing something (job) (Koontz and Heinz, 2004). Many studies have investigated the determinants of product innovation in small firms, suggesting product, firm, market and innovation process factors are its key drivers of success (Jeroen and Patrick, 2006).

3. Nature and Characteristics of Small and Medium Scale Enterprises

Small Scale industries have certain unique features, which distinguish it from the large-scale sector. Small and Medium-Sized Enterprises face tremendous challenges in their attempt to pursue technological innovations. Some of the salient characteristics of small-scale business are given below.

3.1. Personal Character

In most of the small businesses, the owners themselves are the managers and so they can operate independently. They can give customized output to their clients.

3.2. Flexibility

Since most of the small-scale are run by individuals, they do not have to go through a hierarchy to get permissions to make changes. Small businesses can respond quickly to environmental needs than large business which involve many people.

3.3. Labor Intensive

Small businesses have tremendous capacity for employment generation through their labor intensive techniques. Small businesses actually create more jobs than big businesses. This feature of a small scale unit is of great significance in a country like India where human resource is easily available.

3.4. Local Area of Operation

Small businesses are largely local in operation however the markets for its products may be local, regional or even international.

3.5. Short Gestation period

The capital investment in the small sector is generally low and the time taken for the production to commence is also less. As a result of short gestation period the units give quick returns and the pace of economic development quickens. An interesting research result is also that customer market intelligence influences product innovation positively or negatively, depending on whether the innovativeness of the owner in the new product domain is weak or strong.

4. Materials and Methods

The small and medium scale enterprises located in and around Madurai, India were considered for the study. The units considered for the study are suppliers catering the needs of other small and medium scale industrial units. A total of 50 Self-employed people running businesses with and without employees were included in the study and their determinants of innovation were studied. Percentage analysis, Chi square tests were the statistical tools used in the study. Data were collected by direct interaction from the respondents using a questionnaire. A five point Likert's scale is used to find the innovation practices in the small and medium scale units.

4.1. Elements Considered in the Study

When the innovation practices are given an important thrust in today's industrial scene only some elements are considered as major areas which define the future of the organization and its growth (Nagaraja Ganesh, 2013). They are explained below.

4.1.1. Idea about Innovation

The types of innovation such as product, process, additive and breakthrough innovation were taken and their practices in various small scale units were analyzed. The data received from the respondents are tabulated in the following table.

Table-1.Types of Innovation Vs Innovation Practice

Types of Innovation	Very High	High	Moderate	Low	Very Low
Product Innovation	0	7	34	9	0
Process Innovation	0	32	15	3	0
Additive Innovation	0	28	20	2	0
Breakthrough	0	4	10	36	0

4.1.2. Concern's Support to Innovation Activity

Company policy, R&D investment, Organization structure and reward to the employee contribution were taken in the study of this element.

Table-2.Support from Concern Vs Innovation Practice

Support From Concern	Very High	High	Moderate	Low	Very Low
Company Policy	0	28	18	4	0
R&D Investment	0	8	25	17	0
Organization Structure	0	32	15	3	0
Reward to Employee Contribution	0	16	33	1	0

4.1.3. Management Style in Continuous Improvement

Quality Circle, Suggestion system, Brain storming techniques were considered as the major methods of practice by a company in involving innovation practice.

Table-3.Continuous Improvement Methods Vs Innovation Practice

Methods Of Improvement	Very High	High	Moderate	Low	Very Low
Quality Circle	37	10	3	0	0
Suggestion System	13	28	9	0	0
Brain Storming	0	14	32	4	0

4.1.4. Strength of a Concern

When the strength of a company is taken into account Technology, Labor, Material, Finance, Management principle, Progress and Productivity were selected.

Table-4.Organizational Strength Vs Innovation Practice

Organizational Strength	Very High	High	Moderate	Low	Very Low
Technology	0	18	23	9	0
Labor	0	31	14	5	0
Material	0	32	16	2	0
Finance	0	9	29	12	0
Management Principle	0	35	12	3	0
Progress	0	12	32	6	0
Productivity	0	36	12	2	0

4.1.5. Traits of the People

Optimism, Day dreaming, Curiosity Observance, Action oriented, Making things happen, Experience, Willing to take risks was considered.

Table-5.Traits of Human Vs Innovation Practice

Traits of Human	Very High	High	Moderate	Low	Very Low
Optimistic	0	23	25	2	0
Day Dreaming	0	3	30	15	0
Curiosity & Observance	5	32	10	3	0
Action Oriented and Making things Happen	0	37	13	0	0
Willing to take risks	0	19	29	2	0
Experience	0	32	14	4	0

4.1.6. Experience

The experience of the people in practicing innovation is considered. This shows how the interest of the people to practice innovation is coupled with their experience. Chi-square is a statistical test commonly used to compare observed data with data we would expect to obtain according to a specific hypothesis.

Table-6.Experience Vs Innovation

Experience in Years	Respondents who practice Innovation	Respondents who do not practice Innovation	Total
Greater than 15	5	3	8
5-15	19	11	30
Less than 5	8	4	12
Total	32	18	50

Null Hypothesis H₀: Experience and Innovation are independent
 Alternate Hypothesis H₁: Experience and Innovation are dependent

Table-7.Expected Frequency Table

Experience in Years	Respondents who practice Innovation	Respondents who do not practice Innovation	Total
Greater than 15	$(32 \times 8) / 50 = 5$	$(18 \times 8) / 50 = 3$	8
5-15	$(32 \times 30) / 50 = 19$	$(18 \times 30) / 50 = 11$	30
Less than 5	$(32 \times 12) / 50 = 8$	$(18 \times 12) / 50 = 4$	12
Total	32	18	50
Observed Frequency O	Expected Frequency E	$(O - E)^2$	$(O - E)^2 / E$
3	5	4	0.8
22	19	9	0.5
7	8	1	0.125
5	3	4	1.33
8	9	11	0.82
5	4	1	0.25
		Total	3.825

Here n = 3.
 (n - 1) = 2. For degrees of freedom = 2, and at 5% level of significance the table value is 5.991
 Calculated value = 3.825. The calculated value is less than the table value i.e. 3.325 < 5.991.
 So Null Hypothesis is accepted. So Experience and Innovation activity are independent.

5. Results and Discussion

The findings based on the response obtained from the questionnaire regarding the elements which define the future of the organization and its growth is given below.

5.1. Idea and Practice about Innovation

68% of the respondents practice product innovation moderately. Additive innovation is practiced in a high level by 56%. Process innovation is also practiced to a high level by 64% of the respondents and breakthrough innovation is the least practiced.

5.2. Concern's Support to Innovation Activity

Company policy, Organization structure, supports innovation activity to a high level whereas the reward to the employee in supporting innovation is low. The owner's innovativeness has a positive influence on market orientation, innovation, and performance (Verhees and Meulenberg).

5.3. Methods Followed for Continuous Improvement

Quality circle is being followed by 94% of the respondents to a high level and 82% of the respondents follow suggestion system to a high level. Brain storming is followed by fewer respondents.

5.4. Important Organizational Strength

Respondents consider labour, material, management principle, productivity, as important organizational strengths. At the same time, they consider that they lack in technology and finance. Small and Medium-Sized Enterprises face tremendous challenges in their attempt to pursue technological innovations (Devi and Byung-Jin, 2009).

5.5. Traits that Influence Innovation

High percentage of the respondents consider Optimism, Action oriented and making things happen, curiosity and observance and willingness to take risks influences innovation. Day dreaming does not foster innovation. The phenomenon of co-opetition, that is, simultaneous cooperation and competition between firms, has become increasingly popular in recent years (Gnyawali et al., 2006).

5.6 Experience and Innovation

Experience and Innovation are totally independent. Irrespective of Experience people practice innovation.

6. Conclusion

Product innovation needs more technology and financial strength so process innovation which is easier and more promising can be practiced well. Also additive innovation will be easier for small and medium scale enterprises to carry out when comparing it with breakthrough innovation. Employee rewards are too low. The attitude of the employers should have a change so that the employees are motivated and their involvement can be made higher in innovation. Suggestion system can be made still more effective in fostering continuous improvements leading to job satisfaction and morale. Finance is considered as a major drawback for small and medium scale enterprises. Financial institutions and technical consultancy organizations can aid companies in providing finance and necessary technical leadthroughs respectively to practice innovation. Periodic training measures can be implemented to employees so that their efficiency may be enhanced. The experience and the innovation activity are independent which shows people's optimism, curiosity and willingness to take risks is no longer coupled with experience. The concept of co-opetition should be taught to them so that the firms will be updated enough to face the current challenges.

References

- Audretsch, D. B. (1995). Innovation growth and survival. *International Journal of Industrial Organization*, 13(4): 441-57.
- Charlie, K. and Ola, O. (1998). Product innovation in small and large enterprises. *Small Business Economics*, 10(1): 31-46.
- Devi, R. G. and Byung-Jin, R. P. (2009). Co-opetition and technological innovation in small and medium-sized enterprises. A multilevel conceptual model. *Journal of Small Business Management*, 47(3): 308-30.
- Gnyawali, D. R., He, J. and Madhavan, R. (2006). Impact of co-opetition on firm competitive behavior: An empirical examination. *Journal of Management*, 32(4): 507-30.
- Jeroen, d. J. and Patrick, V. (2006). Determinants of Product Innovation in Small Firms: A Comparison across Industries. *International Small Business Journal*, 24(6): 587-609.
- Koontz, H. and Heinz, W. (2004). *Essentials of management*. McGraw Hill Press.
- Nagaraja Ganesh, B. (2013). Innovation in small business. *Managerial Herald- Bi-Annual Journal of Thoughts*, 1(2): 63-65.
- Stephen, P. R. and Timothy, A. J. (2007). *Organizational behavior*. 12th edn: Parson/Prentice Hall Press.
- Varies, M. and Littunen, H. (2010). Types of innovation, Sources of information and performance in entrepreneurial SMEs. *European Journal of Innovation Management*, 13(2): 128-54.
- Verhees, F. J. H. M. and Meulenberg, M. T. G. Market orientation, innovativeness, product innovation, and performance in small firms. *Journal of Small Business Management*, 42(2): 134-54.