Intrapreneurship Prerequisites and Outcomes in High-Tech Industries

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ABSTRACT

For achieving profitable growth, many companies have developed new approaches to innovate and to create new businesses. Management acts as a facilitator and promoter of intrapreneurship. Management activities affect organisational culture and the basic assumptions of intrapreneurship in terms of risk taking, innovation, creativity and learning to result into change within the organisation. It is evident that intrapreneurship provides a ground for competitive advantage to an existing organisation. During the first stage of the study, the effect of total pre-requisites of intrapreneurship on the total intrapreneurship outcome, and its factors and dimensions amongst the employees having 1to10 years of work experience in hi-tech industries was determined. The final sample of 80 executives was drawn on a random basis from various hi-tech industries located in and around Indore.

Keywords: Innovate, Intrapreneurship, High-Tech Industries, Risk Taking, Creativity.

Introduction

To achieve profitable growth, many companies have developed new approaches to innovate and to create new businesses. Successful companies change, innovate, and orient themselves entrepreneurially to become competitive (Zahra, 1991; Zahra et al., 1999, Christensen and Raynor, 2003). This implies that while existing capabilities provide the basis for the current performance of a company, without renewal, these capabilities are likely to constrain future ability to compete (Leonard-Barton, 1992).

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Thus, institutionalising entrepreneurship is not at all easy, though everyone wishes to have it always.

Intrapreneurial Phenomenon

The basis of intrapreneurship is recognising an opportunity, exploiting it, and trusting that exploiting an opportunity in a way that deviates from previous practice will succeed and support the realisation of the organisation's aims (Heinonen, 1999). Here, intrapreneurship is defined to mean an entrepreneurial way of action in an existing organisation, i.e. the company's commitment to innovation in terms of three related components: product innovation, proactiveness, and risk taking (Miller 1983). Product innovation refers to the ability of a company to create new products or to modify existing ones to meet the demands of current or future markets. Proactiveness is a company's capacity to compete in the markets by introducing new products, services or technologies.

Risk taking indicates the company's willingness to engage in business ventures or strategies in which the outcome may be highly uncertain (Zahra and Covin, 1995). Together these components form an A-type. This strategic renewal of an existing organisation entails areas, such as mission reformation and reorganisation, as well as system-wide changes within the organisation (Zahra, 1991, 1993, 1996). The renewal activities relate to the concept of a firm's business and its competitive approach in the markets.

The primary factors retarding intrapreneurship are the cost of failure is too high, and the rewards of success are too low. Intrapreneurs need to be given the space in which to fail, since failure is an unavoidable aspect of the intrapreneurial process. This is not to say that organisations should condone failure, but rather that organisations need to begin to measure and attribute failure to either the intrapreneur's fault, or circumstances beyond the intrapreneur's control, and punish or reward accordingly.

Pre-requisites and Outcome of Intrapreneurship

Several researchers have attempted to understand the factors that stimulate or impede intrapreneurship. Areas such as external environment, organisation, its strategy, and management activities have been presented as

factors affecting intrapreneurship (Miller, 1983; Guth and Ginsberg, 1990; Kuratko et al., 1990; Heinonen, 1999). Intrapreneurship is a process, which occurs in interaction with the environment (Van de Ven, 1993). It appears that the environment plays a profound role in influencing intrapreneurship: the more dynamic, hostile and heterogeneous the environment, more emphasis an organisation places on intrapreneurial activities (Zahra, 1991, 1993). The intrapreneurship literature highlights the importance of organisational factors for the pursuit of intrapreneurship (Zahra, 1991; Heinonen, 1999; Antoncic and Histrich, 2001; Heinonen and VentoVierikko, 2002).

Management acts as a facilitator and promoter of intrapreneurship. Management activities affect organisational culture and the basic assumptions of intrapreneurship in terms of risk taking, innovation, creativity and learning to result into change within the organisation. Management activities ensure that the organisation has a clear and understood vision and direction. The organisational setting also includes the way work is being organised, such as power and responsibility, division of work, rules, etc. Altogether, these organisational factors direct the employees in their intrapreneurial efforts, as well as ensure that employees are empowered and committed (Thompson, 1999).

Previous studies indicate that managerial support, i.e. organisational structure, as well as reward and resource availability, affects intrapreneurial activities within the organisation (Hornsby et al., 1993; Antoncic and Hisrich, 2001). All the potential elements of intrapreneurship are the factors assumed to affect intrapreneurship on an organisational level. Within intrapreneurship, as within entrepreneurship, the individual is the key actor, making it understandable that why intrapreneur's personal attributes, roles, and functions are focal areas of intrapreneurship research (Carrier, 1996). The individual skills and attitudes describe the capabilities and willingness of any potential intrapreneur to act intrapreneurially. It is evident that intrapreneurship provides a ground for competitive advantage to an existing organisation.

Hi-tech Industries

Traditional industries are conventional, use low technology and are labour/ semi-automated, and which are evolutionary in nature with a very slow

phenomenon of development and change. Many of these are process industries where the sub-processes are interrelated and not independent. Thus, it is not possible to change individual sub-processes as the inputs and outputs of a sub-process do not match with the related processes. In the recent times, there is an emerging growth of hi-tech industries. These industries are mechanised/automated/knowledge-based, and use the latest upgraded technology. In these types of industries, adoption of advanced technology is very fast. They have extended knowledge base and are revolutionary in nature.

The factors differentiating traditional industry from hi-tech industry may have their impact on intrapreneurship. Length of work experience of an executive also affects intrapreneurship. One of the important and primary trait of intrapreneurs is risk taking. Many studies have suggested that risk taking in an executive increases with the length of work experience. Therefore, with increasing length of work experience, executives may contribute to intrapreneurship differently in hi-tech industries.

Objectives of the Study

To determine the effect of total prerequisites of intrapreneurship on the total intrapreneurship outcome, its factors and dimensions amongst employees having 1 to 4 years and 7 to 10 years of work experience in hi-tech industries.

Research Methodology

The present investigation is an exploratory study to understand the impact of total intrapreneurship prerequisites on the total intrapreneurship outcome, its factors and dimensions in Indian industries with special reference to hi-tech organisations. Further, the study has also focused on highlighting the effect of factors and dimensions of intrapreneurship prerequisites on the total intrapreneurship outcome, its factors and dimensions. The intrapreneurship prerequisites, work experience and type of industry being independent variables, the intrapreneurship outcome has been chosen as the dependent variable. The level of work experience in terms of length of service, and industry in terms of type of organisation were taken as under:

- Work experience: From 1 to 10 years
- Industry: Hi-tech Industries

The Design

The study was undertaken to test a null hypothesis formulated under research problems. During the first stage of the study, the effect of total prerequisites of intrapreneurship on the total intrapreneurship outcome, and its factors and dimensions amongst the employees having 1to10 years of work experience in hi-tech industries was determined.

Sample

The elements of the universe were comprised of employees with work experience of 1 to 10 years in hi-tech industries. The final sample of 80 executives was drawn on a random basis from various hi-tech industries located in and around Indore. An initial sample of 90 elements was collected for drawing the final sample of executives having work experience from 1 to 10 years, while controlling the effect of extraneous variables such as gender, background, education, and hierarchy by randomisation and elimination. The incomplete sets of measures were rejected besides those in which socially desirability scores were found beyond optimum range.

Tools for Data Collection

Primary data was collected as per requirement of the research design. For this, two standardised psychometric measures were developed to elicit the responses from intrapreneurs: one for intrapreneurship prerequisites and another for the outcome. Factors of intrapreneurship prerequisites are enterprising, disciplined, achievement-oriented, influential, self efficient, action-oriented, people oriented, persistent, problem solving approach, composed, learning-oriented, receptive, quality of life, and the dimensions of intrapreneurship prerequisites are daring , prudent and erudite. Factors of intrapreneurship outcome are change and development, proactivity, empowerment, sense of responsibility, customer-orientation, and dimensions of intrapreneurship outcome are result and efficacy.

Tools for Data Analysis

To test the difference between the means of samples of employees of all types of industries having 1–10 years of work experience with low and high responses of prerequisites with the sample size of more than 30, the '*z*' test was used.

The sample was classified into high and low total prerequisites of intrapreneurship, and 'z' values of the total outcome. Factors and dimensions of intrapreneurship outcome were computed to test the eight null hypotheses out of which five were rejected (Table 1).

H_{01}: Total prerequisites of intrapreneurship do not affect the total outcome of intrapreneurship amongst the employees having 1to 10 years of work experience in high-tech industries.

The hypothesis stands rejected (z = 3.03, < p. 0.01).

Thus, employees with high total prerequisites of intrapreneurship are higher in the total outcome of intrapreneurship amongst the employees having 1 to 10 years of work experience in high-tech industries.

H_{02}: Total prerequisites of intrapreneurship do not affect the change and development factor of intrapreneurship outcome amongst the employees having 1 to 10 years of work experience in high-tech industries.

The hypothesis stands rejected (z = 8.39, p < 0.01)

Thus, employees with high total prerequisites of intrapreneurship are higher in the change and development factor of intrapreneurship outcome amongst the employees having 1to10 years of work experience in high-tech industries.

H_{03}: Total prerequisites of intrapreneurship do not affect the empowerment factor of intrapreneurship outcome amongst the employees having 1 to 10 years of work experience in high-tech industries.

The hypothesis stands rejected (z = 6.75, p < 0.01).

Thus, employees with high total prerequisites of intrapreneurship are higher in the empowerment factor of intrapreneurship outcome amongst the employees having 1 to10 years of work experience in high-tech industries.

H_{04}: Total prerequisites of intrapreneurship do not affect the customer-orientation factor of intrapreneurship outcome amongst the employees having 1 to10 years of work experience in high-tech industries.

The hypothesis stands accepted.

H_{05}: Total prerequisites of intrapreneurship do not affect the proactivity factor of intrapreneurship outcome amongst the employees having 1 to 10 years of work experience in high-tech industries.

The hypothesis stands accepted.

H_{06}: Total prerequisites of intrapreneurship do not affect the sense of responsibility factor of intrapreneurship outcome amongst the employees having 1 to 10 years of work experience in high-tech industries.

The hypothesis stands accepted.

H_{07}: Total prerequisites of intrapreneurship do not affect the result dimension of intrapreneurship outcome amongst the employees having 1 to 10 years of work experience high-tech industries.

The hypothesis stands rejected ($z = 4.80$, $p < 0.01$).

Thus, employees with high total prerequisites of intrapreneurship are higher in the result dimension of intrapreneurship outcome amongst the employees having 1 to10 years of work experience in high-tech industries.

H_{08}: Total prerequisites of intrapreneurship do not affect the efficacy dimension of intrapreneurship outcome amongst the employees having 1 to 10 years of work experience in high-tech industries.

The hypothesis stands rejected ($z = 3.81$, $p < 0.01$).

Thus, employees with high total prerequisites of intrapreneurship are higher in the efficacy dimension of intrapreneurship outcome amongst the employees having 1 to10 years of work experience in high-tech industries.

Table 1: Test of Significance between the Means of Total, Factors and Dimensions Intrapreneurship Outcome as a function of High and Low Total Prerequisites of Intrapreneurship (z-test)

	M X-1	*SD X-1*	*M X-2*	*SD X-2*	*Z Value*
TIO	4.2586	0.364	3.9709	0.5879	3.034 **
OF1	4.4247	0.414	3.5506	0.5287	8.3967**

	M X-1	*SD X-1*	*M X-2*	*SD X-2*	*Z Value*
OF2	4.4175	0.2042	3.8333	0.6001	6.7504**
OF3	4.0737	0.2505	4.159	0.7217	0.972
OF4	4.3904	0.4265	4.3376	0.6066	0.622
OF5	3.9868	0.529	3.9744	0.4828	0.153
OD1	4.2492	0.2689	3.8548	0.6039	4.806**
OD2	4.2649	0.2555	4.0484	0.3979	3.812**

TIO: Total intrapreneurship outcome
OF1: Change and development factor of intrapreneurship outcome
OF2: Empowerment factor of intrapreneurship outcome
OF3: Customer-orientation factor of intrapreneurship outcome
OF4: Proactivity factor of intrapreneurship outcome
OF5: Sense of responsibility factor of intrapreneurship outcome
OD1: Result dimension of intrapreneurship outcome
OD2: Efficacy dimension of intrapreneurship outcome
M X-1: Outcome mean of the employees having high total prerequisites
M X-2: Outcome mean of the employees having low total prerequisites
SD X-1: Standard deviation of the employees having high total prerequisites
SD X-2: Standard deviation of the employees having low total prerequisites
*: Significant at 0.01 level.

Conclusion

Employees with high total prerequisites of intrapreneurship are higher in the total intrapreneurship outcome, its factors of change and development, and empowerment, as well as dimensions of result and efficacy amongst the employees having 1to10 years of work experience in high-tech industries.

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