

Full Length Research Paper

The exploration of organization factors that inspire intrapreneurship in Iranian Agricultural Research Organization (IARO)

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The purpose of this empirical study is to investigate organizational factors which influence intrapreneurship development in Iranian Agricultural Research Organization (IARO). Authors of Intrapreneurship studies have proposed many organizational factors variables that might influence intrapreneurship and organizational effectiveness. However, no previous studies have attempted a broad integration of all of these in a comprehensive theory of Intrapreneurship. The present study seeks to move in this direction. Descriptive - correlation research method was employed to conduct the study. Statistical population comprised all IARO agricultural research and development specialists. To draw samples, one province out of each regional category of the country was selected randomly and 250 out of 1145 research specialists were also randomly selected from six selected provinces based on Cochran's methodology. A well constructed questionnaire comprised of two parts: First, 40 questions to assess intrapreneurship development and second 69 questions dealing with organizational factors, with direct role in intrapreneurship development. Validity of the questionnaire was analyzed and reliability coefficient was calculated for the questionnaire using Cronbach's alpha ratio of $\alpha = 0.93$ for the first and $\alpha = 0.906$ for the second part). SPSS_{win15} was utilized to process the data. Applying correlation analysis showed that intrapreneurship development had positively significant relationship with organization factors ($P = 0.01$). Also multivariate regression revealed that 56% of variance in intrapreneurship development was determined by: Leadership style, organization strategy, organizational control system and organizational culture. The remaining variance was due to other variables and organizational factor that have not been investigated in this research. Results showed that an organization with appropriate factors would be more successful in human resource management field as well as can stimulate intrapreneurship development.

Key words: Entrepreneurship, intrapreneurship, agricultural research intrapreneurship.

INTRODUCTION

This paper deals with the creation of intrapreneurship as an induced process in organizations, through which the management attempts to develop the competencies of the employees using human resource management (HRM) and organizational development projects. In essence, organizational and economic development is

substantially dependent on entrepreneurship in existing organizations (intrapreneurship) (Antoncic, 2007). Intrapreneurship is a special type of entrepreneurship and thus shares many key organizational characteristics with this comprehensive concept. Intrapreneurship has been conceptualized as the actions of individuals within organizations leading to innovation of product, services or processes (Antoncic and Hisrich, 2003).

The importance and capability of intrapreneurship for the development of technological innovation is widely

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acknowledged. The organization that promotes entrepreneurship is an organization capable of creating, learning and influencing the environment (Morales, 2006).

During the past century, the world has been transformed by profound innovations and technological developments. Hence intrapreneurship is increasingly becoming a term used in the business world to describe organizations that are willing to pursue opportunities, initiate actions and emphasize new, innovative products or services. Intrapreneurship describes the process of developing new products, services, and lines of business within an existing company, Integration of entrepreneurial skills into a large corporation's strategic vision that nurtures a climate of radical or incremental innovation. Intrapreneurship is allowing an atmosphere of innovation to prosper. Terms such as intrapreneuring, intrapreneurship, intra-corporate entrepreneurship, corporate venturing, internal corporate entrepreneurship and entrepreneurial strategy making, has been used to describe the phenomenon of corporate entrepreneurship (Antoncic and Hisrich, 2004). The main aim is therefore to explore linkages between organization factors and intrapreneurship development.

Drucker (1985) argued that the innovative spirit is the quintessence of entrepreneurship and the most basic quality requirement of modern enterprise system for entrepreneurs as well (Chen, 2005). Lack of intrapreneurship is a common problem of the large corporations such as Agricultural research organizations. Agricultural research is the main actor for agricultural development and we studied public Agricultural research providers in Iran. Zahra et al. (2000) believe that these days, considerable attempts have been made to identify the factors that promote a corporation's commitment to corporate entrepreneurship therefore, with a consideration for the given circumstances in Iran; a research is done on the organization factors contributing to the cultivation of intrapreneurship. Research indeed can promote entrepreneurship if they are train on entrepreneurship development and management.

LITERATURE REVIEW

The literature on intrapreneurship has identified two main sets of intrapreneurship antecedents: One set refers to the organization and the other to the individuals in the organization. This study focused on organizational factors. Intrapreneurship is primarily an individual activity, while intrapreneurship is conducted at the organizational factors (Kazanjan et al., 2002).

Antoncic (2007) reported that some of organizational characteristics such as communication, formal controls, environmental scanning, organizational support, competition-related values, and person-related values are highly and positively predictors variables for intrapreneurship development phenomenon. Antoncic and hisrich

(2004) showed that there is positive relationship between intrapreneurship and organization factors such as a formal control and organizational support. Some of organizational factors which have a key role in Intrapreneurship development are argued following.

Management support

Organizational and management support can be beneficial for intrapreneurship. Importance of management involvement, as well as top management encouragement, and rewarding of venture activities are felt to be important for corporate entrepreneurship. Organizational support in terms of training and trusting individuals within the firm to detect opportunities have been proposed by Stevenson and Jarillo (1990) to positively influence an organization's entrepreneurial behavior.

In essence, the management leadership exerted through successful contemporary entrepreneurship can generally be thought of as leading, through direct involvement, a process that creates value for organizational stakeholders by bringing together a unique innovation and package of resources to respond to a recognized opportunity. In fulfilling this process, entrepreneurs function within a paradigm of three dimensions: Innovativeness, risk-taking, and proactiveness (Morris et al., 2004). Management style has a central role in intrapreneurship development. This is supported by Zhao's (2005) findings in relation to entrepreneurship and innovation and fits well within this intrapreneurship context where she found that supportive management style and culture are critical.

Leadership styles

There is much evidence on the correlation between leadership styles, values at the work place, performance variables, satisfaction, motivation, and organizational commitment (Bass, 1999). Entrepreneurial management leadership is important in founder driven organizations, but can also be used to foster the entrepreneurial posture within larger firms. This perspective takes into account the entrepreneur, the individuals with whom the entrepreneur is directly involved, and the broader "community" of stakeholders in which the entrepreneur is embedded (Stevenson, 2004). In conclusion, most studies on the connection between leadership and individual innovation have explored the role of theory-based leadership styles, originally developed for other purposes such as the assessment of leaders' impact on performance or effectiveness rather than innovation-related outcomes (Jong and Hartog, 2007).

In achieving organizational excellence, an entrepreneurial leader is thereby a person who inspires, by

appropriate means, sufficient competence to influence a group of individuals to become willing participants in the fulfillment of innovational goals. The leadership strategy of attention through vision creates a focus for the organization. A manager is expected to carry out assigned functions and responsibilities in an organization. But successful leaders in entrepreneurial management do more than that. They are acutely aware that there are customers in the marketplace for new innovative products and services, the use of which can help solve their problems. In addition, entrepreneurial leaders are sensitive to the fact that everything related to their responsibilities and the functions of their organization might be done faster, better, more reliably, with fewer errors, and at a lower cost (Darling, et al., 2007). Entrepreneurial management leadership is about helping people to settle into new opportunities that give them joy and hope for the future (McLagan and Nel, 1995).

A successful entrepreneurial organization depends on the existence of shared meanings and interpretations of reality, which facilitate coordinated action. Individuals become what they think about, and, therefore, meaningful communication becomes of major importance in focusing on primary themes of achievement in the organization. Leaders articulate and define what may have previously remained implicit or unsaid; then they create perspectives which provide a visionary focus. By so doing, they consolidate or challenge prevailing wisdom. In short, an essential factor is the capacity to influence and organize meaning for associates (Darling et al., 2007).

Organizational culture

The cultural setting is the key towards entrepreneurship; culture is antecedent to individual and organization-related factors of intrapreneurship in many of the research. Organizational culture consists of the beliefs, values, norms, customs and practices of the organization. Schein (1992) defined the concept as a system of norms, shared values, concerns, and common beliefs that are understood and accepted by the members of the organization. The members of the organization accept these as valid, follow them and teach them to incoming members as a pattern to be followed for problem solving and as required thinking style and behavior (Mosadegh, 2006). Values are an important part of an innovative organizational culture, in which individuals are continuously encouraged to generate new ideas, knowledge and solutions (Wong, 2005).

Organizational culture has been defined in different ways in the literature. In entrepreneurial culture, the focus is on the future rather than the past and the ability to develop and transfer knowledge is greatly valued. A simple definition shared by many researchers is that organizational culture is "the way we do things around here". It reflects the norms and deeply rooted values and

beliefs that are shared by people in an organization. Organizational culture can affect levels of entrepreneurship and innovation through socialization processes that influence workplace behavior, and through structures, policies, and procedures that are shaped by the basic values and beliefs of the organization (Martin and Terblanche, 2003).

Organizational structure

Contingency theorists suggest that successful performance results from the appropriate alignment of strategy and structure (Powell, 1992). Structure of an organization can be classified according to its technology: Mechanistic versus organic. The "mechanistic" structure represents a high degree of specialization, division of labor, vertical communication, centralized authority, and low autonomy. Mechanistic organizations tend to be more traditional, more tightly controlled, and more hierarchical in their approach. On the other hand, the "organic" structure allows less strict task differentiation, less clear hierarchy, and a relatively higher degree of autonomy. In general, an organically structured organization is more adaptable, more openly communicative, more consensual, and more loosely controlled. Organic structures support the systematic discovery of innovative opportunities and foster opportunities through facilitation and motivation (Jogaratham and Tse, 2006). Organizational structure has a direct effect on staff to participate in the management. The organization structures have to comprise the ideal conditions for the employee communication inside the enterprise and with the partner's enterprises, suppliers, purchasers, etc. comprising the alliances (Sakalas and Venskus, 2007).

Organizational reward system

Some authors stress that entrepreneurial behavior can be encouraged by effective reward systems that must consider clear goals, feedback, individual influence and rewards based on results. Designing a reward system that reflects the behavior the company wishes to encourage is therefore crucial (Christensen, 2005). Intrapreneurs are motivated by controllable rewards such as "regular pay, bonuses, profit share, equity or shares in the company, expense accounts, job security, promotions, expanded job responsibilities, autonomy, public or private recognition, free time to work on pet projects, money for research or trips to conferences (Morris and Kuratko, 2002). Hence all intrapreneurial organization has had a tendency to effective reward system.

Organizational strategy

A well-defined and pro-active strategy is central to an

Table 1. Organizational factors influencing intrapreneurship development.

Organizational factor	Authors
Communication openness	Chadam and Pastuszak (2000); Wong (2005)
Organizational culture	Mosadegh (2006); Tan (2002)
Management support	Demirbag et al. (2006); Altinay (2004); Lessem and Baruch (1999)
Organizational rewarding system	Hornsby et al. (1990)
Organizational structure	Jogaratnam and Tse (2006)
Organizational control system	Zahra (1991, 1993)
Organizational leadership	Shalley and Gilson (2004); Aaltio and Takal (2000)
Organizational strategy	Raynor (2008); Wang and Zang (2005)

innovative and entrepreneurial organization. Such an organization needs internally-focused strategies that propel growth and stimulate change within the organization, as well as externally focused strategies that actively seek out new ventures, acquisitions, mergers, or joint ventures to achieve commercial success through innovations. The strategy should be diverse enough to address a spectrum of technological, financial, and human issues, and should be congruent with the future scenario envisaged for the organization. Meeting and exceeding the changing needs of customers should be the key management and entrepreneurial strategy (Zhao, 2005). Briefly, Table 1 show organizational factors influence on intrapreneurship development that are employed in this research.

Communication openness

Other keys to creating an intrapreneurial environment include the following: Support from ownership and top management; recognition that intrapreneurship is compatible to the existing culture; communication channels that are open; allocation of resources to the new innovations, and rewards for intrapreneurship (Frenken, 2000).

Structure that allowed for openness and communication with management is the heart of intrapreneurship. Open areas, not enclosed rooms, gave the opportunity for the cross-fertilization of ideas (Beals, 1999). Communication openness is a central variable in organizational communication; open communication behaviors involve asking for information, listening to information, and acting on information; given the nature of open communication behaviors, subordinates are generally open to their superiors and open communication is a vehicle for handling no routine and negative information (Zahra et al., 2000).

Organizational control

Approaches to organizational control can be described as a choice between market devices, bureaucratic mechanisms and clan controls. These controls vary in the

types of uncertainty that they can address, but they are not mutually exclusive and can be used in combination to nurture strategic consensus in a variety of contexts (Floyd and Lane, 2000). An appropriate organizational control is rational combination of unleashed and rigid.

RESEARCH METHODOLOGY

The major goal of this comprehensive study of intrapreneurship is to obtain more empirical information about organizational factors that can inspire entrepreneurship in large organization. Hence this research sought to determine how organizational factors and intrapreneurship development are linked. Hence the aim of this paper was to demonstrate that intrapreneurship can be enhanced through appropriate setting (organizational factors) and determination of the most important of them within Iranian Agricultural Research Organization (IARO). Statistical population comprised all IARO agricultural research specialists with higher level education. To draw samples, one province out of each regional category of the country was selected randomly and 250 out of 1145 research specialists were also randomly selected from six selected provinces based on Cochran's methodology. The study dependent variable (DV) was intrapreneurship development that was measured by Morris and Kuratko (2002) instrument, designed for this purpose (40 items). The independent variables (IV) consisted of 8 organizational characteristics based on our own literature survey (As defined in Table 1). Every of these concepts were measured by particular scales (totally 69 items). The study is conducted by Descriptive - correlation method. The validity of the questionnaire was analyzed and a reliability coefficient was calculated for the questionnaire using Cronbach's alpha coefficient as shown in Table 2. SPSSWin15 was utilized to process the data. Multiple regression equation was dominant statistics method for data analysis. The multiple regression equation takes the form $y = b_1x_1 + b_2x_2 + \dots + b_nx_n + c$. The b's are the regression coefficients, representing the amount the dependent variable y changes when the corresponding independent changes 1 unit. The c is the constant, where the regression line intercepts the y axis, representing the amount the dependent y will be when all the independent variables are 0 (Tabachnick and Fidell, 2001).

RESULTS AND DISCUSSION

For investigating the relationship between organizational factors and intrapreneurship development, the Pearson correlation coefficient was employed. These results are shown in Table 3.

Table 2. Research instrument's Cronbach's alpha coefficient.

Questionnaire's section	Cronbach's alpha(α)
Intrapreneurship development	0.93
Communication openness	0.90
Organizational culture	0.90
Management support	0.92
Organizational rewarding system	0.92
Organizational structure	0.91
Organizational control system	0.90
Organizational leadership	0.90
Organizational strategy	0.90

Table 3. The correlation of intrapreneurship and organizational factors (Pearson correlation coefficient).

Organizational factor	r	P-value
Communication openness	0.544**	0.000
Organizational culture	0.626**	0.000
Management support	0.215**	0.001
Organizational rewarding system	0.346**	0.000
Organizational structure	0.421**	0.000
Organizational control system	0.356**	0.000
Organizational leadership	0.626**	0.000
Organizational strategy	0.576**	0.000

**Meaningfulness at $p = 0.01$.

Table 4. Multivariate regression coefficients related to intrapreneurship development.

Variable	B	Beta	SEB	t	Sig.
Constant	1.32	-	0.092	14.42	0.000
Organizational leadership	0.363	0.528	0.060	6.08	0.000
Organizational strategy	0.295	0.472	0.045	6.52	0.000
Organizational control system	-0.366	-0.494	0.053	-6.91	0.000
Organizational culture	0.137	0.181	0.062	2.20	0.028

B : Regression coefficient, SEB: standard error of B.

According to Table 3, there is a positive and significant relation between intrapreneurship development and organizational factors ($p = 0.01$). To determine which of them have a more affect on intrapreneurship development, we utilized multivariate regression in other words, multivariate regression method has been employed to analyze the most significant organizational factors affecting the intrapreneurship development of IARO. Stepwise method has been utilized to become acquainted with the regression model; having entered all the variables related to organizational factor as predictor variables. The results of Table 4 show that the leadership style variable is the most significant variable affecting the intrapreneurship development. Second variable affecting

the intrapreneurship development is organizational strategy. Third variable affecting the intrapreneurship development refer to organizational control system variable. Finally, the 4th step of the regression indicates that the 4th variable affecting the Intrapreneurship development is the organizational culture. Since the test error has reached 5%, the regression operation has ended, and the regression model has been finalized. Hence 4 variables have been entered in the regression model essentially. The ensuing model has been presented as follows after making the coefficients standardized.

$$Y = 1.32 + 0.363X_1 + 0.295X_2 - 0.366X_3 + 0.137X_4$$

In this formula: Y = Intrapreneurship development; X1 = leadership style; X2 = organizational strategy; X3 = organizational control system, and X4 = organizational culture

The aforementioned model shows that the most significant variable influencing the Intrapreneurship development is leadership style. F ratio for regression equation is 78.35, that is significant ($p = 0.01$) hence another results showed in Table 4 are reliable. Amount of $R^2 = 0.561$ show that this equation can explain 56% of variances. In other words, four variables entered in the model have managed to express the changes of the Intrapreneurship development in IARO.

In the face of intense competition, rapid technology evolution, and customers' increasable expectations, Intrapreneurship is a first choice in which firms actually implement entrepreneurial performance. Intrapreneurship depends on organizational factors. In this study, leadership strategy to change or the innovation, support roles and control system and culture are determining factors in Intrapreneurship development in large organization such as an IARO. This research highlighted the structuralist perspective, which considers that organizational characteristics determine intrapreneurship. Briefly, in this research, the relationship between organizational characteristic and the flourishing of Intrapreneurship was shown. Also other characteristics studied by other researchers and scholars namely communication openness, management support, organizational rewarding system and organizational structure, has not been entered into regression equation. Therefore these factors do not show predictive role for Intrapreneurship development in IARO.

Conclusion

In the past decades, both the entrepreneurship and the management literature have paid increasing attention to entrepreneurship within existing organizations (Lumpkin and Dess, 1996; Shane, 2003). This phenomenon is usually called 'corporate entrepreneurship', 'corporate venturing' or 'intrapreneurship'. Entrepreneurship in existing organizations can be studied at the individual, the organizational and the macro level. Authors of Intrapreneurship studies have proposed many organizational factors variables that might influence intrapreneurship and organizational effectiveness. Some, such as rewards system, variables of organizational culture and structure, leadership and corporate strategy, have been empirically examined. However, no previous studies have attempted a broad integration of all of these in a comprehensive theory of Intrapreneurship. The present study seeks to move in this direction. The result of research showed that organizational factors have a key role in intrapreneurship development. Applying correlation analysis showed that intrapreneurship development had positively significant

relation with organization factors ($P = 0.01$). Also multivariate regression revealed that 56% of variance in intrapreneurship development was determined by: Leadership style, organization strategy, and organizational control system and organization culture. The remaining variance is due to other variables and organizational factor that have not been investigated in this research. Results showed that an organization with appropriate factors would be more successful in human resource management as well as can stimulate intrapreneurship development. Therefore, Intrapreneurship is depending on organizational factors to produce business results as opposed to driving performance. As aforementioned, Intrapreneurship is a process through which individuals in a firm pursue entrepreneurial opportunities to innovate without regard to the level and nature of currently available resources and Intrapreneurship flourishes when an organization's factors are well managed.

Research results indicated organizational leadership style, strategy and culture are important in development of Agricultural research organization intrapreneurship; also, as an indicated control system has a negative roll in intrapreneurship development. Based on research result and light of results of other research, we can evaluate Intrapreneurship throughout organizational factor status. Restricted number of layers results in a broader span of control which in turn creates opportunities for employees to act entrepreneurially. With fewer managerial layers, authority and responsibility are decentralized and horizontal or lateral interactions among employees are encouraged. In agricultural research organization leadership, strategy and culture characteristics currently have ability to facilitate the surfacing of ideas and innovations at lower organizational levels and foster unique and creative managerial styles.

As results of the study, the following implications for managements are forwarded:

1. High role of leadership style in intrapreneurship development: Agricultural research needs persons who inspire other personnel through appropriate means and also sufficient competence to influence a group of individuals to become willing participants in the fulfillment of innovational goals. In this way, it is very important that managements respect and honor staff's opinions and suggestions;
2. The results of correlation analysis showed that communication openness, organizational culture, rewarding system, management support, organizational structure, control system, organizational Leadership and organizational strategy will all help an organization become more intrapreneurial. Hence, recommended that all agricultural research analysis can go through status of these factors to reform them;
3. Importance of organization strategy in intrapreneurship development: It is necessary that IARO clarify their

developmental programs for staffs and stakeholders, and employ strategy for intrapreneurship development;

4. The result of regression equation showed that formal control system is not appropriate for IARO; this system must be restricted to executive phase in agricultural research programs;

5. High capability of organizational culture on intrapreneurship development in IARO management must promote trust atmosphere among staffs for information sharing;

6. Organizational reform is needed for transformation of passive system to dynamic system to response to audience's requests and environmental alterations;

7. Agricultural research should be dynamic. Intrapreneurship is vital phenomenon for all IARO; in this regard, formulation of intrapreneurship model is necessary for them all by themselves.

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