Delhi Business Review ✠ Vol. 6, No. 1 (January - June 2005)

INNOVATION-SPONSORING CAPABILITY AMONG EXECUTIVES

R.S. Dwivedi*

INNOVATION has emerged as a key determinant of financial performance of today's organizations. Accordingly, executives are required worldwide to possess the capability for sponsoring innovation to provide competitive edge to their enterprise. Do executives in Indian enterprises really possess the desired level of this capability so much needed for their survival and success in the 21st century? As there does not exist any research-based evidence for it, the present study seeks to answer the following specific questions: What is the level of innovation-sponsoring capability and its different elements among executives selected for the study? How do these executives withstand in terms of their innovation sponsoring capability and its different components in comparison with norms evolved or Indian innovative professionals? Are there any relationships among age, experience and innovation sponsoring capability and its different measures among executives? To answer these questions, a random sample (n = 30) of executives selected from three organizations were administered 'Innovation Sponsoring Capability Questionnaire'. As revealed rom the analysis of data, despite above average (mean = 3.75) level of innovation sponsoring capability of executives, it was below the national norm (mean = 4.0) for innovative professionals; individually, most of the executives (nearly three-fourths) were also below this norm. Except on two subscales ('environmental and political sensitivity' and 'proclivity for social/organizational innovation') where they were at par in overall analysis, their specific innovation sponsoring capabilities were below the national norms on other five subscales ('task accomplishment drive', 'confidence', 'interpersonal sensitivity and skill', 'problem solving skills' and 'challenge facing and stress tolerance'): individually, most of them were also below the norms in terms of these specific capabilities. Because of inadequate reliabilities of two subscales ('drive to win' and 'resource and support mobilisation'), it was not possible to make inferences vis-a-vis capabilities measured by them. Age and experience has no relationships with innovation sponsoring capability and with most of its components (which, in turn, were strongly correlated positively with each other). As the study implies, concerted efforts must be made to strengthen/develop innovation sponsoring capabilities of executives in conjunction with taking appropriate measures to inspire innovation among people for corporate survival and success in today's turbulent environment.

Review of Literature

Recent research literature embodies adequate evidence to infer that for high corporate performance, innovation is much more important today than in the past and that it forms a core competency for the 21st century organizations (Tucker, 1998). In an environment which is changing rapidly, business as usual means death. Accordingly, high performance organizations are engaged worldwide in exciting experiments to reinvent the way they create the future. As Kanter (1983) demonstrated earlier,

* *Professor Emeritus, Delhi School of Professional Studies & Research, (GGS Indraprastha University), 9 Institutional Area, Sector 25, Rohini, Delhi-110 085, India.*
Formerly Professor and Head, Department of Management Studies, Kurukshetra University, Kurukshetra, Haryana, India.

corporations which are 'integrationist' (successful at stimulating the innovative capacity of their people) rather than 'segmentalist' (so rigidly structured as to stifle innovation) are able to stay ahead of changing technologies and markets.

Concept, Source and Types of Innovation

The term 'innovation' makes most people think first about technology : microprocessors, computer-related devices, etc. Fewer people would mention new tax laws or the formation of enterprise zones (although these are innovations too). Fewer still, if any, would be likely to mention such innovations as quality circles or problem-solving task forces. This is unfortunate as our emerging world requires more social and organizational innovations than technical ones (Kanter, 1983, p.20). Even many 'productivity improvements' necessitate innovations which determine how jobs are designed or how departments are composed.

Innovation refers to the process of bringing any new, problem solving idea into (Kanter, 1983, p.20). Ideas for reorganizing, cutting costs, putting in new budgeting systems and improving communication are the examples of innovations in organizations. Indeed, innovation relates to generation, acceptance and implementation of new ideas, process, products or services. Thus, in work settings, innovation is defined as the process of developing a creative idea so that it can be put to practical use (Utterback, 1971). It involves to facets : design and implementation.

Usually, most of the ideas successfully developed and implemented by the organizations stem form outside. Thus, as a study (Utterback, 1974) shows, developed; a quarter of the commercially successful innovations were entirely adopted from other companies. Obviously, observes Drucker (1985), in most business, ideas come from metodically analysing seven areas of opportunities (some of which lie within particular companies or industries and some of which lie in broader social or demographic trends) : unexpected occurrences, incongruities, process needs, industry and market changes, demographic changes, in perception and new knowledge. Kim and Mauborgne (1997) further help managers to recognise the opportunities revealed by Drucker. As they point out, companies can achieve sustained high growth by pursuing value innovation-shaping conditions in an industry and pursuing quantum leaps in value to customers. Take the example of Virgin Atlantic. It challenged industry conventions by eliminating first-class service and channelling the cost savings into innovations for business-class passengers. Innovation is also fostered by information gathered from new connections : from insights gained by journeys into other disciplines or places; from active, collegial networks and fluid, open boundaries. Innovation arises from ongoing circles of exchange, where information is not just accumulated or stored, but created. Knowledge is generated anew from connections which were not before (Wheatley, 1992, p.113). Continuous innovation occurs largely because a few key executives have a broad vision of what their organizations can accomplish for the world and lead their enterprises toward it. They appreciate the role of innovation in achieving their goals and consciously manage their companies' value systems and atmosphere to support it (Quinn, 1985).

Organizational innovations can be classified as technical vs. non-technical (Khandwalla, 1988, p.326). Technical innovations relate to the processes by which production occurs and also to innovations in the products themselves. Non-technical innovations can be classified as management innovations and social innovations. Management innovations range from innovations in missions, style of management, growth strategies, management systems and organizational structures to office decor and flexitime. Management innovations have emerged as a significant elements of organizational innovations (Kimberly, 1981). As it is an intensely political process, it necessitates 'skills' in its sponsors. At the same time, there is need for participatory technologies such as action research (De, 1979) and OD (Ahmad, et. al., 1980) to generate a climate of innovation and change.

Specifically, action research in India has led to the redesign of the work in post office (De, 1984) and in a shoe manufacturing plant (Singh, 1981). Notwithstanding this, management innovations are difficult to institutionalise (Maheshwari, 1980; Nagabrahmam, 1980, p.325-337). Khandwalla (1988) examined varied factors hampering institutionalisation of management innovations and identified strategies to overcome them. Innovation can be major ('big bang') or they can be the minor ('suggestion box') type (Gluck, 1985). Abernathy, et al. (1983) classify innovations in four types: architectural market niche, regular and revolutionary.

Management of Innovations

Ambabile (1998) suggests that companies' over reliance on control and order can undermine people's ability to generate and implement powerful ideas. Varied measures may be taken to promote such ideas. Attempts may be made to boost people's expertise, creative thinking skills and intrinsic motivation. They should be given stretch assignments and decision making freedom. Innovations must be supported with sufficient time and resources. People must know that what they do, matters. Likewise, Williams and Miller (2002) identified strategies for ensuring that a good idea gets a hearing and a champion – essential step towards innovation. To gain support for their ideas, creative thinkers must understand, their listeners' particular decision making styles and adapt their presentations accordingly.

Innovations usually involve uncertainties which can be managed by organizations in varied ways (Quinn, 1985; Bleicher, et. al. 1983; Hanan, 1969). Thus, Sony Corporation of Japan tried ten parallel approaches for developing its video tape recorder technology, followed by a 'short out' where one of the approaches is selected. Likewise, IBM prefers to borrow others' creative ideas and then develops alternative products for market testing. Management of innovation is not only an economic process, involving immense cost but also a political process. The political nature of innovation implies that those entrusted with an innovation must have the skills of influencing others and use a set of strategies (Sinha, 1982). Management of design phase of the innovation necessitates administrative flexibility, authority based on expertise, information sharing, etc. (Burns and Stalker, 1961) On the other hand, the implementation phase demands careful planning, coordination, control and evaluation of progress (Khandwalla, 1977).

There exist several research studies aimed at management of technological innovations. A research study (Kendrick, 1979) indicates that nearly 40 per cent of the productivity improvements in the west can be attributed to technological innovations. Technological innovations represent responses to market needs or cost pressures than to basis scientific discoveries (Utterback 1974; Sinha, 1982). Moss (1985) provides explicit guidelines for managing technological innovations. As he concludes, the organizations are required to respond organically and flexibly to innovation opportunities. He also stresses the relevance of experimentation, team building, HRD and creativity. Despite this as Pearson (1988) shows, technological breakthroughs are all well and good, but when it comes to innovation, small steady improvements across the business are the way to go. Making this happen requires flexible yet firm management – and a good measure of guts.

A recent study conducted at Harward Business School (2002) presents viewpoints of 16 innovation experts as to how they help all the talented people in their team to come up with ideas generating profits. These experts pull back the curtain on the mysteries of innovation indicating that concrete, deliberate actions can enhance the possibility for increased innovations. As Amabile et al. (2002) point out, while time pressure may drive people to get things done – and may even make them more creative – it actually makes them less apt to innovate. There are ways, however, to counter the ill effects of the deadline crunch. It has been suggested that failure tolerant leaders can help employees to overcome their fear of making mistakes, creating a culture of intelligent risk-taking which makes innovation routine (Farson and Keyes, 2002).

Overall, it appears that despite several efforts to assess and develop innovation sponsoring capabilities of Indian executives during pre-globalisation period, very little empirical work has been undertaken by Indian researcher in this context after globalisation of the economy in July 1991. Therefore, it has become almost imperative that a series of empirical studies are conducted to ascertain whether Indian executives are equipped with adequate level of innovation sponsoring capabilities required for high financial performances of their enterprises during post-globalisation period. This propelled the researcher to undertake the present study.

The Problem

In the context of the above survey of literature, conceptually, the study seeks to answer the following general question: Do executives in Indian enterprises really possess desired level of innovation sponsoring capability urgently needed for their survival and success in the 21st century? Operationally, the study seeks to answer the following specific questions:

- What is the level of innovation sponsoring capability and its different elements among executives selected for the study?
- How do these executives withstand in terms of their innovation sponsoring capability and its different components comparison with norms evolved for Indian innovative professionals?
- Are there any relationships among age, experience and innovation sponsoring capability and its different measures among executives?

Theoretically, the study may provide evidence to determine the extent to which age and experience facilitate/hamper innovation sponsoring capability and its different components among executives; it may also indicate the extent to which different elements of innovation sponsoring capability are related with each other as well as with the composite innovation sponsoring capability. Thus, the study may contribute towards development of new knowledge relating to innovation.

The practical objective of the study is to determine the extent to which executives are below/equal to or above the norms evolved for Indian innovative professionals vis-a-vis their innovation sponsoring capability and its different elements. Thus, it may suggest specific areas of weakness/strength of executives as a strategy to develop/reinforce their innovation sponsoring capability for improved financial performance of the companies under study.

Notwithstanding its significance, in conjunction with its methodological limitations, the study is merely limited to the 'perceptual world' (which may differ from 'reality' as determined by other objective methods) of executives; it merely determines the extent of innovation sponsoring capability and its different components among executives as perceived by them. Explicitly, the findings of the study cannot be generalised because of a very small size of the sample.

Methodology

The Scale*

The data were collected with the help of a 40-item scale: "Innovation Sponsoring Capability Questionnaire". It was designed to measure executive capability for being an agent of innovation in organizations. It requested the respondents to rate (on a 5-point scale) the extent to which they possessed a particular trait. The scale items (which formed the nine sub-scales) were borrowed from literature (Khandwalla, 1988, p.353-355), The nine scales measured varied skills needed to be successful agent of innovation. These scales included: proclivity for social/organizational innovation

* The Scale can be obtained from the author for research purposes.

(POI), environmental and political sensitivity (EPS), challenge facing and stress tolerance (CST), problem solving skills (PSS), resource and support mobilisation (RSM), task accomplishment drive (TAD), drive to win (DTW), confidence (CFC) and interpersonal sensitivity and skill (ISS). The split-half (odd-even) reliabilities estimated for the questionnaire (total scale and nine subscales) are given in Table 1. Table 1 shows, the split-half (odd-even) reliability of the total scale was .87. The split-half (odd-even) reliabilities of 9 subscales ranged from .66 ('drive to win') to .82 ('interpersonal sensitivity and skill'). Thus, the reliabilities of all the subscales (except 'drive to win'; and 'resource and support mobilisation') and the total scale were satisfactory.

Table 1: Split-Half (Odd-Even) Reliabilities of the Innovation Spnsoring Capability Scale and Its Subscales among executives (n = 30)

Scale/Sub Sales	Split-half (odd-even) Reliabilities
Innovation Sponsoring Capability (ISC) Scale	.87
• Proclivity for Social/Organisational Innovation (POI)	.79
• Environmental and Political Sensitivity (EPS)	.76
• Challenge Facing and Stress Tolerance (CST)	.70
• Problem Solving Skills (PSS)	.72
• Resource and Support Mobilisation (RSM)	.67
• Task Accomplisment Drive (TAD)	.70
• Drive to Win (DTW)	.66
• Confidence (CFC)	.71
• Interpersonal Sensitivity and Skill (ISS)	.82

The Sample

Three organizations (one transnational electronics company, one public sector finance corporation and one Indian private sector paper mills) were selected for the study. Ten respondents (executives) from each organization were further selected using random sampling method. The background characteristics of the executives embodied in the sample (n = 30) are shown in Table 2. Specifically, as Table 2 shows, the sample consisted of 14 graduates and 16 post graduates from varied disciplines: technology, engineering, science, commerce, management and arts. Their ages ranged from 26 to 55 years with a mean of 39.7. They possessed 4 to 34 years of managerial experience with a mean of 39.7. They possessed 4 to 34 years of managerial experience with a mean of 16.3. There were 8, 12 and 10 executives from top, middle and supervisory levels, respectively. The numbers of respondents from general, finance, HR, making and production areas included 4, 10, 4, 7 and 5, respectively. The sample included 3 females and 27 males.

Table 2: Background Characteristics of Executives (n = 30) Selected for the Study

Education		Age (Years)		Experience (Years)		Level			Functional Area				
Graduate	Post-graduate	Mean	Range	Mean	Range	Top	Middle	Supervisory	General	Finance	HR	Marketing	Production
14	16	39.7	26-55	16.3	4-34	8	12	10	4	10	4	7	5

Data Collection and Analysis

The data were collected in February 2003. Initially, the CEOs from the 3 organizations were approached by the researcher through a link person for their permission and support to conduct the study. They were assured that the identity of their organizations and executives would be kept strictly confidential. Ofcourse, as insisted by the CEOs, the researcher agreed to provide them a general report embodying major findings and conclusions of the study. The respondents were administered the questionnaire individually during working hours. At the very outset, they were informed about the purpose of the study and the method how they were selected. They were assured about the confidential nature of the study. Ofcourse, the researcher agreed to provide them relevant feedback in confidence regarding their own innovation sponsoring capability, if required.

The statistical techniques used in analysing the data included : mean, SD, SE and Coefficient of correlation (Pearson's product moment). The significance of coefficient of correlation was determined with the help of a Table (Garrett, 1958, p.201).

Findings of the Study

Findings of the study are shown in Table 3 to 5. Table 3 presents means, SDs and SEs of innovation sponsoring capability measures among executives. Table 4 presents innovation sponsoring capability scores of executives in comparison with norms for Indian innovative professionals. Finally, Table 5 embodies correlation matrix for age, experience and innovation sponsoring capability measures among executives selected for the study.

Levels of Innovation Sponsoring Capability and its Elements among Executives

As Table 3 shows, the innovation sponsoring capability mean score for executives was 3.75, while SD and SE were 0.61 and 0.18 respectively. The mean scores for 'drive to win', 'task accomplishment drive', 'confidence', 'problem solving skill', 'interpersonal sensitivity and skill', 'environmental and political sensitivity', 'challenge facing and stress tolerance', 'proclivity for social/organizational innovation' and 'resource and support mobilisation' were 4.20, 4.01, 3.83, 3.72, 3.58, 3.58, 3.57 and 3.50, respectively. The SDs and SE for different elements ranged from 0.50 to 0.84 and 0.14 to 0.24, respectively.

Table 3: Means, SDs and SEs of Innovation Sponsoring Capability Measures Among Executives (n = 30) Selected for the Study

Measures	Means	SDs	SEs
Innovation Sponsoring Capability (ISC)	3.75	.61	.18
• Proclivity for Social/Organisational Innovation (POI)	3.57	.52	.15
• Environmental and Political Sensitivity (EPS)	3.58	.63	.18
• Challenge Facing and Stress Tolerance (CST)	3.58	.53	.15
• Problem Solving Skills (PSS)	3.72	.51	.15
• Resource and Support Mobilisation (RSM)	3.50	.84	.24
• Task Accomplisment Drive (TAD)	4.01	.54	.16
• Drive to Win (DTW)	4.20	.66	.19
• Confidence (CFC)	3.83	.50	.14
• Interpersonal Sensitivity and Skill (ISS)	3.72	.63	.18

Innovation Sponsoring Capability of Executives Compared with Norms for Indian Innovative Professionals

Overall, as it may be noted from Table 4, the innovation sponsoring capability mean score (75%) for executives was found to be less than the norm (80*) for Indian innovative professionals. Only slightly more than one-fourth of the executives possessed scores equal to or above the norm the remaining nearly three-fourths of them were below the norm. Specifically, or 'drive to win' subscale, the executives possessed higher mean score (84%) than the norm (80%); four-fifths of the executives had scores equal to or above the norm, while only one-fifth possessed scores below the norm. Moreover, the mean score (71%) on 'proclivity for social/organizational innovation' subscale of executives was equal to the norm; however, individually, only two-fifth of the executives possessed scores equal to or above the norm; the remaining three-fifth of them were below the norm. Again, the mean score (72%) of executives on 'environmental and political sensitivity' subscale approached the norm (72%) for Indian innovative professionals; however, individually, slightly less than three-fifth of the executives possessed scores below the norm, while slightly more than two-fifth had scores equal to or above the norm.

Table 4: Innovation-Sponsoring Capability Scores of Executives

Scale/Sub-scales for Indian Innovative Professionals	Norms (n=30) (in %)*	Means Score of Executi-ves (in %)	No. of Executives (below norms)	No. of Executives (equal to or above norms)
Innovation-Sponsoring Capability (ISC)	80	75	22	8
• Proclivity for Social/Organisational Innovation (POI)	71	71	18	12
• Environmental and Political Sensitivity (EPS)	72	72	17	13
• Challenge Facing and Stress Tolerance (CST)	84	72	25	5
• Problem Solving Skills (PSS)	82	74	22	8
• Resource and Support Mobilisation (RSM)	84	70	25	5
• Task Accomplisment Drive (TAD)	85	80	22	8
• Drive to Win (DTW)	80	84	6	24
• Confidence (CFC)	82	77	20	10
• Interpersonal Sensitivity and Skill (ISS)	79	74	20	10

Source:* Pradip N. Khandwalla, *Fourth Eye: Excellence Through Creativity,* Allahabad : Wheeler Publishing, *1988, p.358-360.

The mean score (70%) of executives on 'resource and support mobilisation' subscale was substantially low than the norm (84%); five-sixth of the executives possessed lower scores than the norm, while only one-sixth of them happened to have scores equal to or above the norm. Likewise, the mean score (72%) of executives on 'challenge facing and stress tolerance' was substantially below the norm (84%); five-sixth of them scored below the norm, while merely one-sixth could reach or exceed the norm. The executives' mean score (74%) on 'problem solving skill' subscale was also markedly below the norm (82%); nearly three-fourth of the executives were below the norm, while slightly more than one-fourth of them possessed scores equal to or above the norm.

As regards 'task accomplishment' subscale, the mean score (80%) of executives was less than the norm (85%) for Indian innovative professionals; nearly three-fourth of the executives were below

the norm, while merely, one-fourth of them were equal to or above the norm. The mean score (77%) of executives on 'confidence' subscale was below the norm (82); two-third of the executives were below the norm, while one-third of them met or exceeded the norm evolved for the Indian innovative professionals. Finally, the mean score (74%) of executives on 'interpersonal sensitivity and skill' subscale was below the national norm (79%) for successful innovative professionals; two-thirds of the executives were below the norm, whereas only one-third of them were equal to or exceeded the norm.

Relationships among Age, Experience and Innovation Sponsoring Capability Measures
As shown in Table 5, age had negative relationships (r ranged from -.03 to -.56) with innovation sponsoring capability and its all the nine elements; however, of the ten coefficients of correlation, only two could reach statistical level of significance; age had significant negative relationship with 'drive to win' (r = -.56) and 'challenge facing and stress tolerance' (r = -.36). Likewise, the coefficients of correlation (r_s) between experience and innovation sponsoring capability and its elements ranged from 0 to -.47; ofcourse, only one coefficient of correlation (r = -.47) between experience and 'drive to win' could statistical level of significance.

Table 5: Correlation Matrix for Age, Experience and Innovation-Sponsoring Capability Measures among Executives (n = 30)

Measures	1 Age	2 Exp.	3 POI	4 EPS	5 CST	6 PSS	7 RSM	8 TAD	9 DTW	10 CFC	11 ISS	12 ISC
1		.94*	-.07	-.03	-.36**	-.08	-.13	-.16	-.56*	-.19	-.07	-.22
2			.00	-.30	-.30	-.24	-.06	-.01	-.47*	-.15	-.12	-.16
3				.48*	.72*	.71*	.80*	.72*	.54*	.62*	.74*	.88*
4					.55*	.26	.43**	.11	.56*	.26	.40**	.60*
5						.63*	.81*	.71*	.63*	.36*	.74*	.85*
6							.84*	.72*	.60*	.67*	.73*	.83*
7								.72*	.60*	.62*	.88*	.93*
8									.50*	.45**	.64*	.74*
9										.68*	.63*	.77*
10											.77*	.74*
11												.90*
12												

* Significant at .01 level

** Significant at .05 level

Of the 45 positive interrelationship (r_s ranged from .11 to .93) among innovation sponsoring capability and out of its nine elements, only three could not reach statistical level of significance; the remaining 43 coefficients of correlation (r_s) were statistically significant. Thus, 'environmental and political sensitivity' had positive (but not significant) relationship with 'problem solving skill' (r = .26), 'task accomplishment drive' (r = .11) and 'confidence' (r =.26).

Discussion
In this context, it would be relevant to interpret findings of the study and highlight their major implications for practitioners and theorists.

As described above, except 'resource and support mobilisation' subscale (mean = 3.50), the executives revealed above average mean scores ranging from 3.57 (71%) to 4.20 (84%). Notwithstanding this, except three subscales ('proclivity to social/organizational innovation', 'environmental and political sensitivity' and 'drive to win'), the executives' mean scores were less than those of successful innovative professionals in India. Again, as the reliabilities of 'drive to win' and 'resource and support mobilisation' subscales were not satisfactory, it is not feasible to draw definite inference regarding executives' performance on these subscales. Explicitly, the 'win drive' embraces the desire to be a topper, not through political intrigues or influence but through performance. The 'resource and support mobilisation' skills relate to uncovering resources and inspiring others to pitch in while tackling the tough task. Thus, in overall analysis, it appears that there is an urgent need to develop executives vis-a-vis the innovation sponsoring capability in general and 'challenge facing and stress tolerance', 'problem solving skills', 'resource and support mobilisation', 'task accomplishment drive', 'confidence' and 'interpersonal sensitivity and skill' in particular.

Strengths of Executives vis-a-vis Innovation Capability

The two elements of innovation sponsoring capability which formed strengths of the executives include:

Proclivity for social/organizational Innovation: It involves the following characteristics

- Keeping touch with major development in one's field and with opportunities for innovation in one's organization.
- At work often coming up with original solutions to difficult problems.
- When faced with tough problems in one's area of work, seeking novel solutions.
- Feeling very impatient with traditional solutions to work-related problems.
- Ability to visualise big goals and getting people excited about achieving them.
- Roping in influential people in the organization to support one's ideas.

It may be noted that without this orientation, executives cannot be persistent innovators in organizations. This tendency requires keeping in touch with new developments in their fields and fresh opportunities for innovation in work setting. It necessitates a preference for novel and creative as compared to stock responses and an ability to come up with creative solutions. It also requires having a vision of a more desirable state of affairs which then breeds discontent with the status quo which in turn fuels a desire to search for innovative opinions. It also demands the ability to rope in people for collective action on one's innovative ideas. Accordingly, proclivity to innovate in organizational settings is strengthened by keeping in touch with developments and opportunities, wanting and being able to come up with fresh ideas and being able to mobilise support for these ideas.

Environmental and Political Sensitivity: It is characterised by

- Quickly identifying the power structure of the organization and getting to know what powerful people in the system want or don't want.
- Ability to 'smell trouble' before others do.
- Quickly identifying the 'dos and don'ts' of the organization
- Keeping one's eyes and ears open to what is happening around.

- Keeping in touch with a wide variety of people and evolving numerous informative and influential contacts.
- Having a knack for doing the right things at the right time in getting job done.

Explicitly, this category of skills necessitate a certain kind of sensitivity among executives about systems and structures – knowing or finding out who matters in the systems; whether something is going wrong before symptoms are visible to others', awareness of the unspoken but strongly held norms of the system and what would be the right, acceptable moves in the system; knowledge of who has what resources, expertise and power; and the cultivation of potentially valuable people. These form the skills of an effective organizational politician. These skills help the innovator to operate lovers of power smoothly for implementing innovations.

The above elements of innovation must be continuously reinforced to strengthen them among the executives.

Weaknesses of Executives vis-a-vis Innovation Sponsoring Capability
As revealed by the study, in conjunction with the composite innovation sponsoring capability, the following five elements emerged as weaknesses of the executives:

Challenge Facing and Stress Tolerance: It is marked by

- Taking on new tasks and being quite at home in new settings and with new people.
- Able to take over when things go wrong and provide guidance to others.
- Not getting disheartened in a tight corner and quickly trying to find a way out of it.
- Not getting unnerved even if one has to make hard choices and decisions.

In fact, these skills involve on the part of executives, a desire for challenges and the capacity to withstand stress which almost always accompanies the task of challenge taking. It embraces the desire of executives for new tasks and the ability to adjust to new settings, resourceful leadership in a tight situation and courage while taking tough decisions.

Problem Solving Skills: These are characterised by

- Bringing order even to the most messy work situation by systematic analysis.
- Thinking up first a large number of alternatives before evaluating any of them.
- Carefully mapping out all the steps of a work-related solution or a course of action.
- Known for one's ability to follow up on tasks and for getting them efficiently executed.

The above skills of innovative executives embrace the range of convergent and divergent thinking abilities. These skills demand ability to analyse a complex situation (problem structuring ability), brainstorming ability, appropriate assessment of alternatives in depth, solution planning, follow-up and execution ability.

Task Accomplishment Drive: It is marked by

- Being counted upon to play one's part in getting jobs done.
- Establishing oneself demanding work-related goals and strict deadlines which stretch considerably.

- Seeking and accepting personal responsibility for getting a job done.
- Getting new projects going easily and quickly.

Obviously, the executives must be equipped with task accomplishment drive. It relates to achievement motivation – the desire to get jobs done; to set oneself demanding goals; to seek personal responsibility and accountability for jobs; to get new project going quickly without the lethargy. Without this drive, it is not possible to accomplish innovative goals.

Confidence: It is characterised by

- Taking work-related challenges which come one's way.
- Known to put across one's point of view clearly and persuasively.
- Not intimidated or overawed by big people and big bosses.
- Taking work-related criticism or failure positively.

The executives must have confidence to effectively sponsor innovation in organizational settings. They are required to possess confidence in taking challenges; in communicating with others, in interacting with powerful persons, in dealing with others and in facing criticism.

Interpersonal Sensitivity and Skill: It is characterised by

- Putting oneself into the shoes of others and sensing their feelings and moods.
- Ensuring that others at work turn to oneself in their moments of emotional stress.
- Being a patient listener and rarely judging someone until one has fully understood what the person is trying to say.
- Giving to others a correct picture of one's thoughts and feelings without getting all worked up.
- Asking colleagues at work for their suggestions and opinions.
- At ease with most people and enjoying close working relationships.
- Direct and open in one's dealings with most people

Last but not the least, for effectively sponsoring innovations the executives are required to possess a set of skills involving the capacity to respond to others sensitively and to deal with others appropriately. To accomplish it, there is need for empathy, ability to listen sympathetically, ability to convey accurately what they are feeling and thinking, and ability to make others feel that their ideas are valued.

Thus, there is need to develop, strengthen and institutionalise innovation sponsoring capability of the executives, especially its above components.

Overall, the innovation sponsoring capability and its different elements embrace both social and intellectual skills. It is very difficult for the executives to possess all such skills. A serious weakness of executives in any of these skills can hamper their innovative efforts. They must learn that it is not a bed of roses. It is a complicated and frequently thankless task. It may not necessarily lead to a conspicuous material gain for the executives personally. Notwithstanding this, successful innovations can stimulate people in the organizational culture and make people more self-reliant and creative. The skills needed for sponsoring innovation are worth developing for executives' own growth as a human being (Khandwalla, 1988, p.360).

Role of Age and Experience

As described earlier, age was significantly and negatively correlated with 'challenge facing and stress tolerance' and 'drive to win'. Thus, it is evidenced that there are 13 and 31 percent negative variances in these components of innovation sponsoring capability, respectively as a result of variance in age. Likewise, there is 22 negative variance in 'drive to win' with variance in experience. Overall, as a theoretical implication of the study, it may be inferred that age and experience have no relationships with innovation sponsoring capability and with most of its components.

Interdependence among Innovation Sponsoring Capability measures

As indicated earlier, there existed 42 (out of 45) significant positive relationships among innovation sponsoring capability and its elements. This implies that 16 to 86 per cent positive variances are caused among varied measures as a result of variances in other measures (as defined by the six of coefficient of correlation). Thus, it is evidenced that innovation sponsoring capability and its different elements are interdependent and interrelated. Thus, these measures are mutually supportive and reinforcing. This forms a significant theoretical contribution of the study.

Developing and Strengthening Skills for Innovation among Executives

As an implication of this study for practitioners, concerned efforts must be made to develop and strengthen the innovation sponsoring skills among executives to accomplish excellent dividends. Several of those skills can be developed and strengthened through varied behavioural science techniques (Pareek, et. al., 1981). Thus, participation in sensitivity training groups or T-groups can develop and strengthen the skills categorised under 'interpersonal sensitivity and skill'. Likewise, achievement motivation labs help in developing and strengthening 'task accomplishment drive', 'win drive', 'confidence', et. Similarly, creative problem solving workshops can develop and strengthen 'problem solving skills'. Again, workshops on stress management can help executives with 'challenge facing and stress tolerance'.

Research suggests that while extrinsic factors (money, position and perquisites) as well as intrinsic factors (sense of challenge, autonomy, sense of making a significant contribution, sense of achievement, etc.) motivate people to be creative, the intrinsic factors may be both stronger and more durable (Amabile, 1983). Indeed, an excessive reliance on extrinsic motivators may be dysfunctional in reinforcing executive innovation sponsoring capability, because instead of focusing on the task, the executives are likely to merely focus on how to get the financial reward, by fair means or foul. Thus, there should be focus on challenging executives to be innovative, on giving them freedom and a sense of responsibility, a chance to accomplish something significant, and an opportunity to make a significant contribution to the organization. Obviously, reasonable extrinsic motivators (at the rate prevailing in the industry or sector) should be adequate for them. Another motivator of executive innovation is, meritocracy-rewards and promotions to those who deserve them by virtue of effective performance. The impulse to innovate is likely to freeze if executives hold that their performance is not going to be rewarded and that only their 'seniority' or 'loyalty' to the boss is likely to help them in earning reward.

Inspiring Innovation: What Executives Need to Really Do?

Another practical implication of the study relates to stimulation of innovation among people in work settings. It is not merely enough to develop and strengthen innovation sponsoring skills among managers, they must come forward to inspire innovation for excellent financial performance of the organizations. A research study conducted at Harvard Business School (2002) seeks to find out what, some of today's most innovative leaders really do to inspire innovation in their organization. Based on this study, some of the following measures (as specified by varied innovators) may also be taken by Indian executives to inspire innovation in organizational settings:

- ***Making it the norm:*** The executives need not separate innovation from the rest of business. It must be addressed systematically by them, like any other business issue. Isolation of innovation from mainstream of business can produce a dangerous cultural side effect. This may cause a perception that innovation is separate from leadership. The artificial division means that innovators lack the visibility and clout to compete for the resources necessary for success. If innovators work with the credibility of leaders, innovation is likely to become a productive component of everyday business (Craig Wynett – General Manager, Procter & Gamble, Cincinnati).
- ***Putting aside ego:*** The executives should help people broaden their perspective. One of the complicated problems of innovation is getting people to accept that the way they work just might not be the best. Getting people to expand their views (i.e. to perceive a situation from others' perspectives) frequently causes ego problems. They do not want to believe that they are doing things in ways, which are less than optimal. Thus, the executive must put aside their ego and help people to do so (Thomas Fogarty, Co-Founder of a VC firm in Portola Valley, California).
- ***Mixing people up:*** A job can be done more innovatively by reorganizing frequently. When people are put frequently into a new structure, it stimulates them to rethink what they are doing on a day-to-day basis. Accordingly, the executives must make concerted effort to mix up people through frequent restructuring programmes. (Leiutenant General Ronald T. Kardish, Director, Missile Defense Agency, USA).
- ***Abandoning fear failure:*** Innovation is about taking risks and learning from failure. Thus, executives should encourage people to abandon their fear failure (Michael Dell, CEO, Dell Computer in Austin, Texas).
- **Hiring outsiders:** There is need to hire people who hold experience outside for inspiring innovation. People with diverse skills and talents can help in challenging the status quo while developing business strategies (Hal Tovin, group executives vice-president, Citizens Financial Group, Providence, Rhode Island).
- ***Abandoning the crowd:*** The executives should help people to see that there are actually many types of innovation – product, customer service, networking, etc. They can spend less and make more money in innovation by paying attention to the valleys – those places which competitors have overlooked (Larry Keeley, President, Doublin, Chicago).
- ***Fighting negativity:*** The executives should always hire people who are smarter than themselves. They should not worry about their job. They should locate people who can do it better than them (Mike Lazaridis, President, Research in Motion, Waterloo, Ontario).
- ***Asking what if?:*** People have a lot of great ideas, if they are provided an environment which is collaborative (not competitive). Therefore, the executives should never say 'that's silly' when people are thinking out of the box (Mark Dean, an IBM fellow, Yorktown Heights, New York).
- ***Merging patience and passion:*** The executives need to foster passion among people. A mandatory partner to passion is diversity. But it must be merged with patience. Passion should not blind an executive; he may need to kill the existing project and move to some other project. (Johz Talley, Vice President, Microbia, Cambridge, Massachusetts).
- ***Experimenting like crazy:*** What prevents innovation is the dangerous brew of fear and complacency – staying where one is out of fear of failing, of blowing too much money, or of placing the wrong bets. This implies that the executives must money, or of placing the wrong bets. This implies that the executives must experiment like crazy to generate innovations (Betty Cohen, Corporate Strategist, Turner Broadcasting System, Atlanta).

- ***Making it meaningful:*** The executives must understand that people come forward with innovation when they believe in what they do and in how company behaves and when they see that their work does more than just enriching shareholders (Daniel Vasella, Chairman, Novartis, Basel, Switzerland).

Overall, for inspiring innovation, people should be allowed to experiment and take risks. They should be given plenty of room to make mistakes. They should be encouraged to keep reaching for and pursuing the most promising ideas. The executives should learn that hiring people with widely divergent skills and talents sets fore increased innovation. The innovation should be approached systematically, just as executives approach any other business issue: define a problem and then solve it. People should be encouraged to innovate not only in the realm of products but also in customer service, business models and networking. These measures are likely to ensure corporate survival and success in today's globalised environment in India.

Conclusions

The following tentative conclusions can be drawn from the findings of the study:

- A level of innovation sponsoring capability was found to be above average (75 per cent) among executives; however, it was below the national norm (80 per cent) for innovative professionals; individually, most of the executives (nearly three-fourths) were also below the national norm is in terms of this capability.
- There prevailed above average levels of 'environmental and political sensitivity' (72 per cent) and 'proclivity for social/organizational innovation' (71 per cent) which were at par with national norms; however, individually, slightly less than three-fifth and three-fifth of the executives were below the norms on these specific capabilities, respectively.
- There existed above average levels of 'task accomplishment drive' (80 per cent), 'confidence' (77 per cent), 'interpersonal sensitivity and skill' (74 per cent), 'problem solving skills' (74 per cent), and 'challenge facing and stress tolerance' (72 per cent) among executives; however, these levels were below the national norms of 85, 82, 79, 82 and 84 per cent, respectively; individually, nearly – three fourths, two-third, two-third, nearly three-fourths and four-fifths of the executives were below the norms on these specific capabilities, respectively.
- Age and experience had no relationships (except low negative relationship of 'age' with 'challenge facing and stress tolerance') with innovation sponsoring capability and its components specified above; there existed high positive relationships among most of the innovation sponsoring capability and its components.
- It was not possible to make any inferences vis-a-vis executives' 'drive to win' and 'resource and support mobilisation' capabilities in-view of inadequate reliabilities of subscales measuring them.
- Concerted effort must be made to strengthen/develop executives' innovation sponsoring capability and its varied elements; there is also an urget need to use appropriate measures to inspire innovation from people for corporate survival and success.

Reference

Abernathy, W.J., Clark, K.B. and Kantrow, A.M. (1983), *"Industrial Renaissance",* New York: Basic Books.

Ahmad, A., De, N.R., Kapur, B.M. and Koreth, M.D.G. (eds.) (1980), *"Developing Effective Organizations: Some Indian Experiences",* New Delhi: Shri Ram Centre.

Amabile, Teresa. M. (1983), *"The Social Psychology of Creativity",* New York: Springer-Verlag.

Ambile Teresa, M. (1998), *"How to Kill Creativity", Harvard Business Review,* September-October.

Amabile, Teresa, M., Hadley, C.M. and Kramer, S.J. (2002), *"Creativity Under the Gun", Harvard Business Review,* August, p.52-63.

Bleicher, Knut, Bleicher, F. and Paul, H. (1983), *"Managerial Frameworks for Innovative Responses in High-tech Organizations", Business Horizons,* 26(6), p.69.78.

Burns, Tom and Stalker, G.M. (1961), *"The Management of Innovation",* London, Tavistock.

De, N.R. (1979), *"Participative Redesign of a Work System",* In B.C. Mathur, K. Diesh and C. Chandrasekharan (eds.), Management in Government, New Delhi, Ministry of Information and Broadcasting, Publication Division.

De, N.R. (1984), *"Alternative Designs of Human Organizations",* New Delhi, Sage.

Drucker, Peter F. (2002), *"The Discipline of Innovation", Harvard Business Review,* August, (originally 1985).

Farson, Richard and Keyes, Ralph (2002), *"The Failure-Tolerant Leader", Harvard Business Review,* August, 64-71.

Garrett, Henry. H. (1958), *"Statistics in Psychology and Education",* Bombay: Allied Pacific Pvt. Ltd.

Gluck, F. (1985), *"Big Bang Management",* In Report L. Kuhn (ed), Frontiers in Creative and Innovative Management, Cambridge Mass: Ballinger.

Hanan, M. (1969), *"Corporate Growth Through Venture Management", Harvard Business Review,* January-February, p.37-55.

Harvard Business School (2002), *"Inspiring Innovation", Harvard Business Review,* August.

Kanter, R.M. (1983), *"The Change Masters : Innovation and Entrepreneurship in the American Corporation",* New York: Simon & Schuster, Inc.

Kendrick, John W. (1979), *"Productivity Trends and the Recent Slowdown: Historical Perspective",* Causal Factors and Policy Options: In American Enterprise Institute, Contemporary Economic Problems, Washington, D.C.: American Enterprise Institute.

Khandwalla, Pradip N. (1977), *"The Design of Organizations",* New York: Harcourt Brace Jovanovich.

Khandwalla, Pradip N. (1988), *"Fourth Eye: Excellence Through Creativity",* Allahabad, Wheeler Pubishing.

Kim, W.C. and Mauborgne, R. (1997), *"Value Innovation: The Strategic Logic of High Growth", Harvard Business Review,* January-February.

Kimberly, John R. (1981), *"Managerial Innovation",* In Paul C. Nystrom and W.H. Starback (eds), Handbook of Organizational Design (Vol. 1), New York: Oxford University Press, p.84-104.

Maheshwari, B.L. (1980), *"Management by Objectives: Concepts, Methods and Experiences",* New Delhi: Tata McGraw HIll.

Moss, Thomas H. (1985), *"Innovation Management in Developing Countries",* Vienna: UNIDO.

Nagabrahmam, D. (1980), *"Adoption of Management Systems in Indian Organizations",* Unpublished Doctoral Dissertation, Ahmedabad: Indian Institute of Management.

Pareek, Udai, Rao, T.V. and Pestonjee, D.M. (1981), *"Behavioural Process in Organizations",* New Delhi, Oxford & IBH Publishing Co.

Pearson, Andrall E. (2002), *"Tough-minded Ways to Get Innovative", Harvard Business Review,* August, p.117-124 (originally, 1988).

Quinn, James B. (1985), *"Managing Innovation: Controlled Chaos", Harvard Business Review,* May-June, p.77-84.

Singh, J.P. (1981), *"Work Reorganization in a Shoe Factory: A Field Experiment",* In Swiss Association of Work Study.

Sinha, Arun P. (1982), *"Technical Innovation in the Manufacturing Enterprises – Context and Process",* Unpubished Doctoral Dissertation, Ahmedabad, Indian Institute of Management.

Trucker, R.B. (1998), *"Managing the Future: 10 Driving Forces of Change for this New Century",* Calif: Berkley Books.

Utterback, James (1974), *"Innovation in Industry and the Diffusion of Technology",* Science, 183, p.620-626.

Utterback, James (1971), *"The Process of Technological Innovation Within the Firm", Academy of Management Journal,* 12, p.75-78.

Wheatley, Margaret J. (1992), *"Leadership and the New Science",* San Franscisco, CA: Berrett-Koehler Publishers.

Williams Gary A. and Miller, Robert B. (2002), *"Change the Way You Persuade", Harvard Business Review,* May.