

THE PROCESSES AND STRATEGIES FOR DEVELOPING INNOVATIONS IN SCHOOLS

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The paper attempts to discuss processes and strategies for innovations in schools. Committed and thoughtful teacher educators, translate their knowledge, expertise, skills and research work for bringing innovations in the teaching learning process in order to keep the system most engaged and updated. The notion of shared explicit philosophy of teaching learning is central, to innovations in the schools. There are mainly four responsible factors perceived in implementation of innovation in any organisation more so, in educational institutions, namely systems support, encouragement to creativity, autonomy and conformity. Fundamentals of innovations provide some insight in to the scope of educational innovation in school education in India. These are mostly based on unique personalised experiences of the learners and the learners retain centrality of focus. Rewards and recognition are the motivating force for fresh innovative ideas and practices. Individual, Institution and Implementation were three vital points for Innovation.

KEYWORDS: Processes, Strategies, Innovations in Schools

INTRODUCTION

Innovation is the invention or use of new idea, method or skill for better results. Systematic innovation requires a willingness to look on change as an opportunity. Innovations focus on the new expectations, new roles and new

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positions. Innovation is a very unique process that depends on new ideas. According to the definition, an innovation is an original solution from the synthesis of information about a need or want. An innovation must be followed by action before it has significance in education terms. Thus, innovation will be defined to refer to an invention that has reached needed introduction in the case of new idea. The key idea here is that the first use does not preclude consideration of adopted ideas that are new in a particular market or application, nor does it provide a measure of the economic significance of an innovation. It simply requires that an idea has been carried far enough to begin to have an educational impact. The process of innovation will be considered as occurring in three overlapping phases or sub processes, the first two of which culminate in an invention, and the last of which results in an innovation. These phases are:

- i. Idea generation;
- ii. Problem solving; and
- iii. Implementation, possibly followed by diffusion.

The idea generation phase results in origination of a design concept of technical proposal, perhaps via synthesis of several pieces of existing information. The problem-solving phase results in an original technical solution, or an invention. The implementation phase results in market introduction of the original solution making it an innovation as defined above. Diffusion is the mechanism of communication and increasing use through which an innovation comes to have a significant educational impact. Innovation in an organisation is viewed as an unfolding process of various stages. First stage is commonly described as the initiation stage, which is the point where a new idea is introduced, sanctioned and accepted for adoption (Fogers, 1983). The second stage is called the implementation stage that consists of management changes that occur in organisation as the innovation is put into operation. Rogers (1983) and Zaltman et.al (1973) have developed models of innovation process. There are several similarities between the two models. Both models recognize innovation as a two-stage process with sub stages.

REVIEW OF LITERATURE

Any work of related literature implies locating and evaluating research work as well as reports of the causal operations and opinions that are related to the individual's planned research project. It also takes into account the advantage of the knowledge, which has already been accumulated in the past as a result of constant human endeavour. A review of related literature gives the scholar an understanding of previous work that has been done in his/her fields/area of research and what still remains to be done. It makes the investigator fully

aware about the previous work that has been done. It also provides an opportunity of gaining insight into the methods, measures, subject and approaches employed by other research workers. A careful review of research, journals, books, dissertations, thesis and other sources of information about the problem to be investigated is one of the important steps in the planning of any research work.

The study of “innovation” began in the early 1900s, but did not develop fully until the 1960s. Rogers, considered one of the leading scholars on the study of innovation, had performed monumental literature reviews with his research associates. The number of published studies about innovation in 1962 was 405, 1,500 in 1971, and 3,085 in 1983 (Rogers, 1962; Rogers and Shoemaker, 1971; Rogers, 1983). The increase in published studies can be linked to the rapid advance made in science and technology which consequently leads to the increased importance of examining innovation as a phenomena in its own right (Knight, 1967). Much of the early research on innovation emphasizes using the individual as the focus of analysis. However, a shift in the focus occurred in the mid-seventies to use the organisation rather than the individual as the unit of analysis (Rogers, 1983; Zaltman, Duncan, and Holbek, 1973). This paper uses the organisation as the unit of analysis of innovation and refers to it as “organisational innovation”.

Scott and Bruce (1994) identified four factors in perceived climate for the implementation of innovation, namely (a) system support, (b) autonomy, (c) encouragement to creativity and, (d) conformity. They have established that successful initiation does not lead to successful implementation, and successful initiation and implementation do not necessarily lead to successful incorporation. Once initiated, implementation of innovations remains problematic and, therefore, must be distinguished as second stage in the process of organisational innovation. Moreover, successful implementation does not automatically lead to an innovation becoming part of the regular routine of a system, hence must be distinguished from both successful initiation and successful implementation.

Innovation is the invention or use of new idea, method or skill for better results. Systematic innovation requires a willingness to look on change as an opportunity. Innovations focus on the new expectations, new roles and new positions (Drucker, 1992).

Jennings and Lumpkin (1992), report that some organisations employ an environment scanning activity that places more importance on evaluating opportunities while others use a scanning activity that evaluates competitive threats.

Innovation adoption is chosen to be the dependent variable of the study and will be predicted along the continuum of high and low propensity or

possibility of innovation adoption. Innovation adoption will be measured based upon two concepts of the new product development literature (Kerin et. al., 1991; Lieberman and Montgomery, 1988; and Weigelt and Camerer, 1988).

Innovation refers to shifting one's thinking and skills into a closer alignment with the new challenges of a flexible knowledge economy where ability to remain innovative, energized, and open to new development (Margan, 1989).

Kanter (1988) reports that innovation has to do with the production, adoption of new ideas, and their implementation. Innovative organisations tend to have similar culture and reward both success and failures.

An innovation must imply an improvement towards a predetermined objective and always presupposes one or more qualitative criteria. However, there is a difference between "being innovative" by using innovative practices (adopting innovations developed by others) and "innovating" (developing innovations). But the real issue is whether what goes on in the classroom has substantially changed. Innovations are, thus to (1) concrete new idea or method, (2) involve one and all, and (3) build organisational competitive capabilities (Marklund, 1972).

Gross et al. (1971) found that eight months after successful initiation, the teachers who had initially welcomed it could not implement innovation effectively. Contributing factors were teachers' lack of understanding of their new role, lack of organisational compatibility with the innovation, and the resistance subsequent to initiation, due to a number of organisational problems of which they became aware when they tried to carry out the innovation and which the administration failed to help them resolve.

Aiken and Hage (1971) report that there is no ideal organisational structure for innovation adoption. Secondly, there is an interaction between the organisation and its environment.

Carlson (1965) in a case study interviewed 107 superintendents of schools in Pennsylvania and West Virginia to assess rates of adoption of three educational innovations: modern mathematics, programmed instruction, and team teaching and found that the innovations were not carried out properly on day to day basis in the schools.

The purpose here is to present the frame of reference utilized for the current paper. The research and literature review related to this study is categorized into: (1) studies of Organisational Innovation; (2) studies of factors affecting innovation adoption in organisations based upon Structural Contingency Theory: organisational environment and organisation structure; and (3) Strategic Choice and Resource Dependence Theories and the synthesis of these two theories to explain innovation adoption.

FUNDAMENTALS OF INNOVATION

Table 1
Fundamentals of Innovation.

Planning	School Culture	Improved Practices
Goals Specification	Open Climate	New Skills and Practices
Investment in Innovations	Development of Candour	New Technologies
Creating School	Sharing Knowledge Base	Fulfilment of Needs Capacities of Stakeholders
Defining Processes	Incentives and Honours	Increase in Learning Outcomes
Evaluation	Support the Processes	Failures as Pedestal for Success

Table 1 reflects that planning and organisational culture paves the way for new ideas and innovations. Goals specification, investment in innovation activities, defining processes, creating organisational capacities, set the stage for generation of new ideas or innovations. Organisation culture (i.e. open climate, knowledge base, candour, support and incentives) activates and articulates the web of relationships between these moving parts to respond to the demand of innovations. Practical application of innovations in the forms of new skills and practices, technologies is judged and assessed on the criterion of learning outcomes. Dynamics of organisation is driven by ubiquitous communication. Technology convergence and learner activism and involvement will create a need for continuous change. Successful innovations seamlessly connect concepts and ideas to their operational manifestations.

Innovation depends on two prime factors. First, it must be based on unique, personalized experiences of learners. The focus is on the centrality of the learners. Second, it must have access to global resources. The focus should be on access, not ownership and control. Innovations in any school depend upon; the nature of the innovation introduced, the tactics used to introduce it, the characteristics of the individual school members who must carry out, the properties of the school structure in which it is introduced. Secondly, it is an attempt to change a school organisationally. When successful, proceed in three basic stages i.e. initiation of the innovation, implementation, and incorporation as a stable part of the organisational structure.

THE PROCESSES

An institution needs processes to make its values, concepts, ideas, and models

operational. Just as the body needs the flow of blood to function- to think, to feel, to exercise, and to enjoy a meal, similarly processes are the blood stream of an organisation. Well developed and flexible processes are the enablers of all innovation culture. Some of the processes identified by the researchers from time to time are given in Table 2.

Table 2

Processes Identified by Various Researchers.

RESEARCHER	PROCESS
Kurt Lewin (1969)	Unfreezing, Changing and Refreezing
Alwin Toffler (1972)	Learning, Unlearning and Relearning
Allen Newell & H.A Simon (1972)	Process as Problem Solving “How” “What” and “Why”
Kotter. J (1983)	Inspire, Inform, Involve, Innovate and Implement
Kelwin Hard (1992)	Planning and Reporting Processes, Communications, Training Needs Analysis, and Implementation.
Michael Hammer (2007)	Overcome Inertia, New Ways of Working, Improving the Skills of the People, Team-Work Support of Specialists and Expertise in the Field.
Galaskiewicz & Bielefeld (1998)	Encouraging, Ingraining, Openness and Attuning to the Stakeholders.
Neville Smith et al. (2006)	Encouragement of Idea-Generation, Screening of Ideas, Evaluation of Ideas, Improvement of Ideas and its Implementation.

Figure 1 gives details of the 'Idea Evaluation Process' (Neville Smith & Murray Ainsworth, 2006). It explains the process of idea generation i.e. welcoming any idea from any layer of organisation. The purpose is to get as much ideas as possible irrespective of its usability. It is then put to primary screening on specified criteria. Ideas thus screened are finally evaluated by the experts and improved ideas are further developed and implemented.

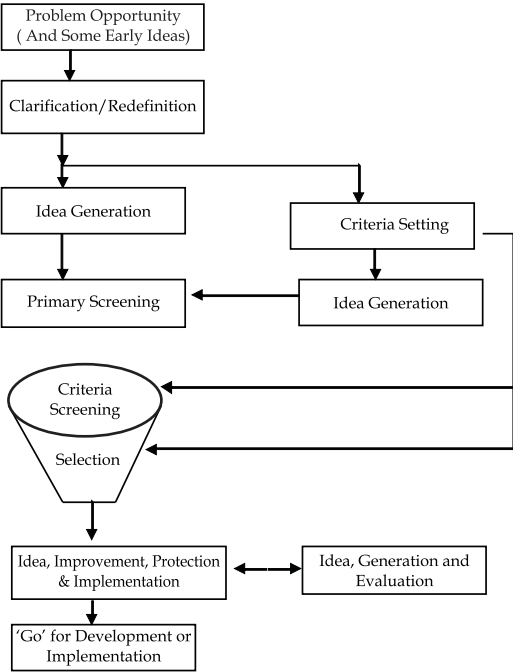


Figure 1 Idea Evaluation Process

STRATEGIES

Innovation is the life-blood of an educational institution. An institution, which stands still, cannot survive. A new idea from the experts, teachers, students and management are important and so is the participative culture for excellence in institutional performance. Innovative organisations tend to evolve a similar culture and reward adoption, initiation and production in their institutional culture

1. The Setting and Personnel

- Creation of congenial or open organisational climate.
- Teachers' capability to deal with strains, pressures, problems, and extra workload are to be increased.
- Willingness, capacity, and incentives should work spontaneously.
- Institutional support both in case of success and failure must be there.
- All are to be informed, inspired, and involved.

“Knowledge workers need an emotionally warm human resource development climate, which fosters creative innovation performance and

lasting relationships, characterized by human touch of joy, care, trust, reward, team spirit, and collaboration” (Nagpal, 2000).

2. Planning

- There should be clarity of objectives.
- There should be substantial budgetary support for innovation.
- Prioritizing of areas of innovation should be undertaken.
- Cost-effectiveness and time-factor need to be considered.

“Planning and thoughtful resource allocation surely makes sense, but innovation is an inherently messy and unpredictable business, growing more so every day. And the unpredictability can not be removed, or perhaps even substantially reduced by excessive planning” (Tomperters, 1990). Innovation can be ensured through an informal process of 'creative thinking groups' giving high priority to the ideas and suggestions of the experts, teachers and students, apart from a formal suggestions scheme.

3. Implementation

- School compatibility to carry out innovations needs to be developed.
- Strategies and mechanism for implementation are to be chalked out.
- In-service training of teachers' for successful implementation and incorporation of Innovation are essential.
- Evidences of difference must be visible.
- Evaluation and assessment should be conducted regularly.

“The schools that perform the best are not necessarily the biggest and the strongest. They are certainly the most innovative, the most adaptive to change” (Sorenson, 2007). “All ideas and innovations have to be translated in to execution, production of desired result for organisation. It is an ability to get things done with quality, on time and within the reasonable cost. It makes all the difference to our success” (Dhananjayan, 2006).

KEY VARIABLES

The Individual

There are three key variables in an organisation namely, the individual, the institution itself, and the processes. In case of individual, the important factors inducing new ideas are level of role clarity, degree of concurrence of values, preferences, incentives, recognition, and job satisfaction. An individual may have number of innovative ideas, if his role is not clear, he cannot be effective. His or her efforts or hard work in the projection of his innovative ideas may go waste. A concurrence between organisational and individual values provides

space for the generation of new ideas. If a person is given a job of his or her preference, or aptitude, the outcome will be substantial. This will pave way for an individual to develop innovative practices so as to achieve excellence in his or her profession. Rewards or recognition provides motivation to come up with new innovative ideas. Many researchers view that at least three motives affect most if not all people at work. These are power, affiliation and achievement. People who have a high power get rewards from being in charge, and who have a high affiliation are rewarded in being associated with others. A high achievement motive like to see a job completed, to see results and thus like to get feedback of attainment, as this is in itself rewarding. These motives clearly affect behaviour. For maximum effect on innovative efforts, they need to be linked to innovative outcomes.

A number of things hold an individual back in the generation of new ideas is fear of ridicule, habit, prejudice and conformity. The fear of being rejected, fear of losing prestige or being branded as 'odd', keep an individual in a mode of status quo. There is a little initiative on the part of an individual to share new ideas with others. Thus, lack of candour is killer of the instinct of innovation. Daily routines constrain an individual to go for divergent thinking. Lot of new ideas may come and go but never put to test. An individual is, thus, get fixated in a stereotype way of easy going which never allow him to run into the risk of exploring new ideas or new practices. Sometimes an individual automatically rejects ideas against which he has an emotional bias. In other case, he may have attachment with particular method, or practice and will not entertain other viable and effective options. Educational systems and practices give rise to conformity. Pressures, which interfere with the creative process, are not confined to schooling and education. Social pressure at the home and in the community, also push us towards conformity. Some parents go to the great lengths to instil conventional behaviour into their children.

The key to successful and sustainable innovation and its incorporation depends upon the individuals in the institution. Therefore invest in people, encourage sharing and nurturing creativity. Trust them, believe them and do not stifle their creativity by suppressing their need for achievement, reward and recognition.

Individual innovation begins with problem recognition and generation of ideas or solutions, either novel or adopted. During the next stage of the process, an innovative individual seeks sponsorship for an idea and attempts to build coalition of supporters for it (Scott and Bruce, 1994). The individual completes the idea by producing 'a prototype or model of innovation that can be touched or experienced, that can be diffused, mass-produced, turned to productive use, or institutionalized (Kanter, 1998).

Strategy 1: There are individuals who would 'maximize the probability of

successes. They are to be motivated. Then there are individuals who 'minimize the probability of failure'. They should be encouraged to come out of conventional mode.

The Institution

Innovation is one of the core dynamic elements of an institution, an element that is idea- dependent. In an institution, we have number of characters i.e. persons with 'No-No' character, individuals with convergent thinking, or divergent thinking or both. The organisations innovation intent can be actualized with the available resources i.e. both human and physical. The role of the organisation in this context becomes more significant with regards to development of physical environment, team spirit, and open climate for the generation of new ideas.

Physical environment implies basic infrastructure i.e. tools or technical aids, or technology for effective performance. Individuals do need quiet space in which to think and reflect. Groups need space in which to work, run idea generation sessions and conduct screening, evaluation and planning procedures. That same space needs to be equipped with computer, Internet, overhead projector, and video replay equipment.

Team spirit provides space to divergent and convergent thinkers for exchange of new ideas, views and knowledge, where diversity of experiences can be utilized for tangible results. Interaction among individuals becomes stimulating. This synergistic effect gives greater opportunities of positive innovative outcomes. Team is, thus, physically and emotionally gets involved with total innovative processes. They are identified by the names such as 'Project Team', 'Study Group', 'Best Practices Teams', and 'Quality Circle' etc.

Institutional climate implies 'Openness' i.e., welcoming new ideas within or outside as well as from all levels of functionaries. The purpose is to bring about a culture of innovation where there is ample space for listening, motivation, involvement and commitment. There is free flow of ideas. Procedures, rules, bureaucratic egocentric tendencies should not come in the way.

Open organisational climate needs to be developed which makes work a more pleasant, satisfying, challenging and rewarding experience for everyone. Don't let hierarchy, bureaucracy, and so-called traditional mindset dissipate individual's spontaneity and sense of inquisitiveness to learn about and from one another.

Strategy 2: Focus on the overall capacity building of an institution to embrace innovation, develop capacity to absorb shocks or failures, create a capacity where each person is uniquely valued for-and trained, to make and pay for-his or her potentially awesome contribution, and a capacity to shift from love for stability to love for change.

The Implementation

It is crucial and absolutely essential to get the most senior level support and commitment in screening and evaluation of new ideas for making any innovation plan a success. Help of technical experts should be taken when a “technical” problem requires solving such as introduction of new ICT system. It should also involve setting of criteria for evaluation and selection of new ideas and managing innovation for enhanced performance. Successful implementation depends upon the individual propensity to understand and adopt innovation. New practices should be demonstrated and documented, which have substantial evidence of high impact across areas of influence. Involvement of all in the process of implementation should be ensured.

Strategy 3: Participation and involvement of personnel should be spontaneous and self-driven. Innovation, however, should revolve around a continuum of inspiration, information, involvement and implementation.

Innovation implies a change in the culture of the school so that authority relationship, communication networks, status groupings, and even friendship cliques are motivated to change. Therefore, the focus should be on the processes and appropriate strategies for the development and successful incorporation of innovations.

CONCLUSION

The processes are the nerves of an institution. The institution needs well built processes to make its values, concepts, ideas and models operational. Just as the body needs blood to function, to think, to feel and exercise similarly processes are the blood stream of an organisation. Well-coordinated, developed and flexible processes are the enablers of innovative culture of an institution. In order to keep innovative culture in constant flux the institution needs to develop sustainable processes and strategies. The processes need to be monitored consistently to keep the institution timely updated. To make educational innovation sustainable in the long run in the country, individual schools need to be nurtured and encouraged to innovate in the local context by decentralizing academic and administrative control. This would allow them to build resources and capacity to survive and sustain in the competitive globalised environment. Three I's, namely individual, institution and implementation are responsive factors for innovation. The three strategies help in institution building and make the institution pro active in evolving itself with new strategies and innovations to stand in the competitive global environment.

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