RELATING INNOVATION STRATEGY TYPES TO CULTURE

RRK SHARMA
Dept. of IME, IIT Kanpur,
India, 208016
rrks@iitk.ac.in

Abstract

In this paper we relate culture required to support innovation of a given type. It has implications for top management in terms of institutional building (while a research organization is being built from scratch); keep conflict (between research workers engaged in different types of innovation in the same organization) at manageable levels.

Keywords
Innovation strategy, conflict management, Innovation types

1. INTRODUCTION
Burgelman et. al. (2004) has categorized Innovation into four types i.e. Radical, Architectural, Modular and Incremental. Further Radical Innovation has been categorized to Exploration and Exploitative innovation. In exploratory innovation, focus on discovery of a technology that will come into market place little longer; and in exploratory innovation efforts are made to use current technology to come up with a product that the consumers will find it useful. In modular innovation, the overall product structure remains the same, but innovation is done in a small module (such as in the personal computer (PC) a new type of disk drive is discovered, and it does not affect the other parts of PC). In architectural innovation, we change the way modules are connected in the overall plan (example is converting a ceiling fan to table fan). Incremental innovation is done to boost the efficiency of a given task.

We collate cultural dimensions given by Hofstede and Cartworth et. al. (1996) typology to get the following: Power distance, uncertainty avoidance, individuality/collectivism, long/short term, masculinity/feminine, bureaucratic, professional, personal support, market and adhocracy. These are self explanatory and hence detailed description is avoided here.
In the following section we attempt to relate innovation type to culture that will result in synergy.

2. DEVELOPING HYPOTHESIS
Exploratory innovation will be possible when research workers love to exist in high level of uncertainty; and have long term orientation.
H1: Exploratory innovation will be supported by culture of adhocracy, low power distance, low uncertainty avoidance and long term orientation.

In exploitation innovation feedback from market/consumers will be crucial; and there is pressure to be on time, hence we have the following.
H2: Exploitative innovation to be supported by Market Culture, A little higher (compared to as given in H1) Power distance and Uncertainty Avoidance. It will need the organization to have short term orientation.

In support of the hypothesis below reader may please refer to (Sharma and Saha, 2014).
H3. Architectural Innovation needs to have much higher collectivism.

If uncertainty is very high, then we need efforts of many to counter it (in both exploratory and exploitative research). Hence we have the following,

H4. If the research is happening in high velocity environment, then it would need more collectivism and much higher level of flexibility.

The above are self explanatory and detailed discussion is avoided deliberately.

3. DISCUSSION AND CONCLUSION

There are several implications of above for research organizations (industry and academic institutions). (a) When research organization is built from scratch, the above framework will be useful to top management to inculcate appropriate culture/values. (b) It will have serious implications for comparing individuals (research organizations: academic/industry) engaged in different types of research (for the purposes of distribution of rewards). (c) Also there will be serious problems in comparing different research organizations (typically Academic Institutes of Higher Learning) that are engaged in different types of innovation as above.

It is known that many organizations are practicing explorative and exploitative innovations under same roof (USR) as opposed to in different roofs (UDR) (Singh, et. al., 2017). We expect that when exploratory and exploitative are done under same roof (USR) it will have a much larger culture clash, and top management (of these research organizations) has to devise approaches for resolving the conflict.

References

Burgelman, C.M. Christensen and Steven C. Wheelwright; 'Strategic Management of Technology and Innovations', *McGraw Hill*, R.A. 2004.

Hofstede's cultural dimensions; (see at the following link); https://en.wikipedia.org/wiki/Hofstede%27s_cultural_dimensions_theory.

S Cartworth, Cary L Cooper, Butterworth and Heinemann; 'Managing mergers, acquisitions and strategic alliances: *Integrating people and Cultures*', 1996.

RRK Sharma and Surajit Saha, "Relating Architectural and Modular Innovation to Organization Structure of the R&D Function", *European Journal of Business Research*, V14 (3); 2014; p. 29-38.

Vinay Singh, RRK Sharma, Thanos, P., and R Dubey, "Differences in information system for exploratory and exploitative processes of innovation and UDR/USR type of innovators"; *International Journal of Business Information Systems,* Vol. 25, No. 3, 2017.

Biographies

Prof. R.R.K. Sharma is a professor (HAG Scale) in the Department of Industrial and Management Engineering, Indian Institute of Technology, Kanpur, India. He has more than 26 years of teaching experience in premier educational institute. His research interest lies in the field of operation research, supply chain management, manufacturing strategy and IT deployment in Industrial Engineering. He is a fellow of IIM Ahmadabad. He has published more than 178 articles of international repute and author of many books on MRP. He has guided 14 students at Ph.D. level and more than 55 at Masters level. Currently he is guiding 12 Ph.D. scholars.