# Modeling Creativity For The Multinational Firm

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**ABSTRACT**

*Much has been written about the proliferation of the modern multinational corporation (MNC) as a primary driver of globalization [Bhagwati, 2004; Rugman and Verbeke 2004; Wolf. 2004]. A common theme shared by all MNCs expanding into foreign markets is the notion of how best to manage the knowledge assets of the firm from all perspectives in order to achieve maximum performance while concomitantly increasing the ability of the firm to innovate while expanding. This paper examines the processes of idea creation within multinational corporations in parallel with the role that information and communication technology (ICT) plays as a driver of that innovation.*

## INTEGRATING KNOWLEDGE MANAGEMENT INTO THE MNC

Accompanying the hastening pace of international trade agreements, nations are scrambling to keep pace in the race toward expanding global capital, product, and service markets by lowering their national boundaries. This has the effect of enabling host countries to receive much-needed highly-skilled personnel and the entry of sophisticated and technologically mature firms into local regions that can transfer useful product and process knowledge to surrounding firms, regions, and the nation. More than ever, regional development planners and corporate strategists are grappling with the issues surrounding the ability of their constituents to become more competitive. Likewise, forward-thinking information systems personnel ponder the myriad ways to deploy ICT assets to strengthen intra/inter-corporate ties and to improve the ability of the firm to operate effectively across national borders.

As nations and multinational firms compete for competitive advantage in global markets, it is useful for firms to capitalize on its domestic strengths that initially drove the firm's early creativity processes as it expands into overseas markets and global operational centers. By maintaining an environment that promotes the process by which product designers imagined and created new products and services, the same relentless compulsion to question, discover, and make innovations provides the firm with the additional revenues needed to expand itself in line with strategic directives. If the necessary ICT infrastructure is put into place as the firm expands globally, a by-product of the logistic and tactical expansion processes will be the coincidental enlargement of the firm's ability to innovate. This enhanced creativity will grow in lockstep with the cultures and regions it touches, as new ways of looking at products and services become manifest by a more diverse audience.

While the uncertainties surrounding the changes that continuously challenge MNCs as they morph their organizational structures cuts across many disciplines (e.g. geopolitical, socioeconomic, religious, ethnic, cultural and locational considerations) - the degree to which the information systems function helps or hinders the operational flexibility of the firm and its overall ability to sense and respond to regional changes in the markets it serves also takes on pivotal importance to the firm [Earley and Mosakowsi, 2004; Gabberty, 2004].

If properly managed, the successful acquisition, synthesis, maintenance, utilization, and dispersion of knowledge by the firm will greatly enhance the likelihood of a successful outcome of strategic decisions made by the firm [Carayannis, 2004; Gottschalk and Khandelwal, 2004; Malhotra, 1998]

So strong is the tie between proper information flow and firm performance that one may suggest that the deliberate management of knowledge assets not only positively impacts the operational facets of the firm but that its absence may stymie the overall creativity of the firm. Accordingly, the ability of the modern MNC to apply its knowledge base to boost creativity also depends in large part on the degree of technological sophistication among information systems (and 'knowledge') workers and the degree of interoperability between dispersed ICT assets throughout the enterprise.

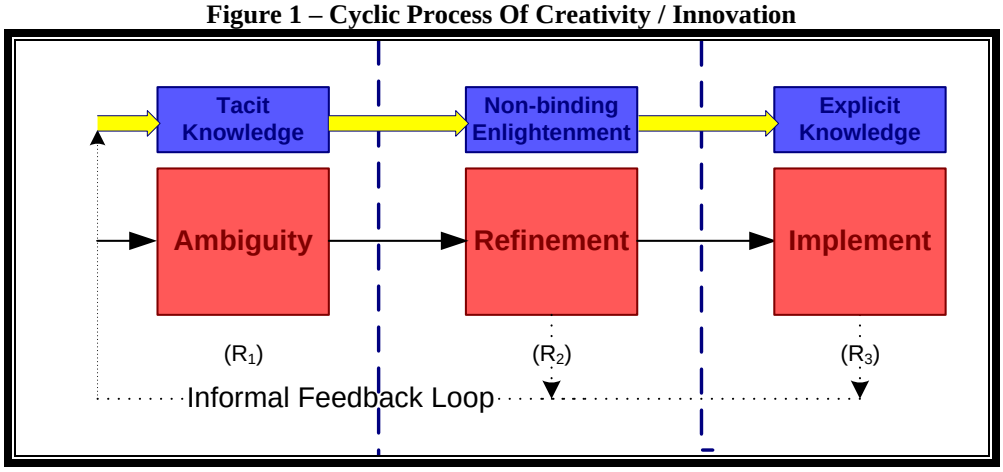
It may therefore be posited that the optimal outcome of any successful KM campaign should include not only the deep-rooted awareness of the high priority placed on managing knowledge assets throughout the firm but also the urgency of forming a systemic (i.e., repeatable) process, or set of processes, that purposefully fosters idea creation and stimulates the requisite reflexive responses to facilitate enactment of these ideas.

## A PROPOSED KNOWLEDGE MANAGEMENT / CREATIVITY MODEL

In any firm of any industry, the creative process involves the cyclic generation and continuous evaluation of ideas that are born as random sparks of enlightenment, stimulated by various triggers. The genesis of these ideas - together with their probability of surviving repeated systemic evaluation, enhancement and maturation - require new or modified approaches to research and development and/or specific skills by key personnel that complement those already extant in the firm. Under the correct set of operating conditions, information systems personnel can often facilitate the integration of creativity with information technologies, as proposed in Table 1, thereby making the overall process more efficient and more effective [Edmonds and Candy, 2002].

With this in mind - irrespective of which methodology (if any) might be used to stimulate idea creation - several existing characteristics (not necessarily complementary, but usually so) should exist for creativity to flourish. Ideally, three distinct idea regions ($R_n$) should exist. These areas each serve unique functions and do not overlap (see F*igure 1*). They are identified and defined as follows:

**Figure 1 – Cyclic Process Of Creativity / Innovation**




### Tacit Knowledge Zone ($R_1$)

In this zone, knowledge exists, but not in any structured or codified format. An idea is sparked and the ingenuity of the individual responsible for conceptualizing the product, event, or service relies on intuition and knowledge obtainable both from inside and outside the firm, input from others, and the random sparking of additional ideas that may occur as the primordial mix of tacit knowledge causes the idea to take shape, germinating and becoming synthesized.

**Non-Binding Zone Of Enlightenment ($R_2$)**

As the idea enters the non-binding zone of refinement, the proposal begins to take shape and is formally presented for consideration and evaluation by local management. This zone is best characterized as the area wherein most problems identified with the idea or concept are marginalized, using input from formal internal feedback loops. Knowledge improves the initial idea, which begins to congeal and become more structured - but not necessarily ordered into some methodical or otherwise codified format. Also, version control and/or managerial oversight of the evolving idea may or may not be present.

**Explicit Knowledge Zone ($R_3$)**

In the explicit knowledge zone, the formalized product specification is accepted by local management for implementation and product launch. In this zone, the biggest threat for failing to realize full potential of the idea becomes manifest; though product guidelines and specifications are drawn, problems with implementation often occur. This zone clearly needs a formal methodology to foster idea refinement and problem resolution and for new product design, preparation, marketing, pricing, and launching.

Finally, the feedback mechanism at the end of the process described by the model passes on information about how well the market received the new product; successes or failures are noted and databases capture this information. In either case, both the originator of the innovation and the external entities watching from the sidelines become aware of the reason(s) for the (successful or unsuccessful) outcome.

These identified knowledge zones suggest the need for various ICT supports. As illustrated in Table 1, the knowledge management resources most likely to be of use to support zone $R_1$ include information retrieval systems tied to database repositories of known past successes, failures and lessons learned, as well as access to know-how and those with know-how through training, mentoring, and facilities for communication, on- and offline. Decision support tools may also be beneficial in grappling with tacit knowledge.

**Table 1: Knowledge Zones & ICT Supports**

| Knowledge Zones | ICT Supports |
|---|---|
| Tacit Knowledge ($R_1$) | *Information retrieval systems*<br>*Databases*<br>*Training*<br>*Mentoring*<br>*Decision Support Tools*<br>*Communication Tools* |
| Non-binding Enlightenment ($R_2$) | *Content Mapping*<br>*Knowledge Mapping*<br>*Brainstorming*<br>*Work Flow Systems*<br>*Communication Tools*<br>*Groupware*<br>*Discussion Boards*<br>*Bulletin Boards*<br>*Videoconferencing* |
| Explicit Knowledge ($R_3$) | *Databases*<br>*Communication Tools*<br>*Bulletin Boards*<br>*Email* |
| Continual Feedback | *Information Retrieval Systems*<br>*Databases* |

In zone $R_2$ to successfully make explicit that which has been mainly tacit up until this point may require techniques such as content mapping, knowledge mapping, brainstorming, work flow systems and, as in the previous zone, mechanisms for on- and offline communication and for capturing the various iterations of exchange - groupware, discussion boards, bulletin boards, videoconferencing. In zone $R_3$, where the idea has now been made explicit, not only is the capture and storage of successes, failures and lessons learned paramount, and the reasons for same, but dissemination, through bulletin boards and email, is crucial for the continued stimulation of novel ideas. Meanwhile, database repositories and information retrieval systems of successes and failures provide the mechanism for feedback for all knowledge zones, facilitating an iterative development, testing and archiving of ideas.

## CONCLUSION

Assuming that firms will continue to undergo the strains associated with globalization, managerial challenges will not dwindle. The decentralized structure of the modern MNC necessitates the need for an enhanced view or perspective as to how management will accomplish this objective is still unclear. It is hoped that the model helps clarify some obscure aspects of this dilemma, by segmenting the idea zones and identifying corresponding relevant KM supports.

The need for a framework to provide a sound base upon which to extend the KM function becomes clearer in light of the resulting increase of flow of information throughout an enterprise and the increase in MNC activity, underpinned, of course, by advances in innovation and creativity without which the MNC would collapse. It is hoped that this model compels IT practitioners to learn more about how the described model will strengthen and fortify the organizational buttresses that support the MNC as it evolves.

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