

Innovation by Efficient Flow of Knowledge

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Abstract

To continue to enable innovation even during a financial crunch companies need to tap the potential of knowledge available with them. But to tap the knowledge and to put it in use in the right direction we require organizations with an innovation oriented philosophy, innovative employees and an efficient knowledge management system. This paper deals with how to create a learning organization where employees are skilled at creating, acquiring and transferring knowledge and at modifying its behavior to reflect new knowledge and insights. The paper is on the basis of a study conducted at one of India leading conglomerate. It takes you through the methodology used by the author, and also has the findings and recommendations at which the author arrived at the end of the study.

Introduction

Innovation & Knowledge Flow

Quality and customer service are no longer differentiators, but rather prerequisites. Innovation is the new best strategic decision for sustainable competitive advantage. Recent financial downturn has generated considerable interest in the Great Depression. There exist both parallels and contrasts but one lesson we all can learn for sure from the

downturn is no company could afford to resist innovation during a downturn. It is how firms go about doing innovation that separates leaders from the rest. But how do you continue to enable innovation even during a financial crunch? One sure source of innovation is knowledge. But possession of knowledge alone cannot ensure that you are innovative, applied knowledge is the key.

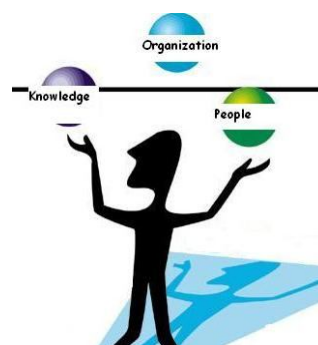


Figure 1

This leads us to another question. How to apply knowledge? This requires an innovation oriented organization philosophy, innovative employees and an efficient Knowledge Management System. In an economy where uncertainty is the only certainty, an organization in which knowledge flows without any bottlenecks and innovation is the way of living, competency is the name of the game. Innovation cannot happen overnight. Before organization and employees can start innovating they must first learn. A learning organization is an organization skilled at creating, acquiring and transferring knowledge and at modifying its behavior to reflect new knowledge and insights.

In business, many a times the meanings of the term innovation and the term knowledge management are not understood in their entirety. People hold a too narrow view of what innovation is. For many it is only related to developing a new product. But in actual the term innovation means a new way of doing something. It may refer to incremental, radical, and revolutionary changes in thinking, products, processes, or organizations. Similarly people tend to think that only useful knowledge is hard/quantifiable data. Rather, in business, it also depends on tapping the tacit and often highly subjective insights, intuitions and ideas of employees.

Innovations can be of two types, bottom up and top down. Bottom-up innovations often reflect a deep operational understanding of the business and its current customers. The innovations coming top-down reflect strategic decisions made by the company's senior executives. These two approaches are not mutually exclusive, and most companies

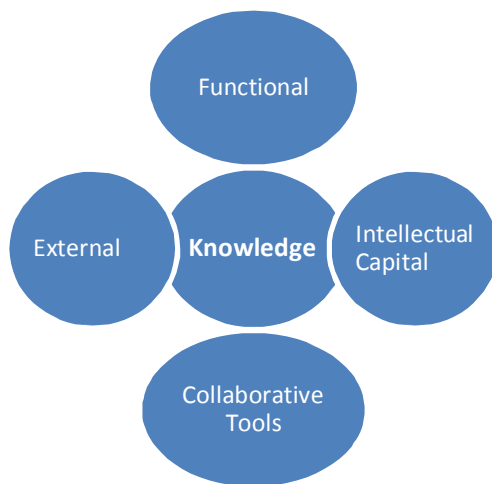


Figure 2

will want to use some combination of both. In the same way knowledge relevant for a company could be categorized into four; External, Functional, Intellectual Capital and Collaborative tools. For efficient utilization of knowledge through uninterrupted flow across organization, companies set up a

Knowledge Management System (Johnson, 2005, p.85).

Knowledge management is still a relatively young field, with new concepts emerging constantly. Often, it is portrayed simplistically; discussions typically revolve around blanket principles that are intended to work across the organization. For example, companies are urged to emulate knowledge-management leaders such as British Petroleum and Skandia. And most knowledge management initiatives have focused almost entirely on changes in tools and technologies, such as intranets, common repositories and other systems. Too often, companies implement state-of-the-art technology and then discover that culture and behavior are slow to change.

In reality, Knowledge Management is complex and multifaceted; it encompasses everything the organization does to make knowledge available to the business, such as embedding key information in systems and processes, applying incentives to motivate employees and forging alliances to infuse the business with new knowledge. Effective knowledge management requires a combination of many organizational elements-technologies, human resource practices, organizational structure and culture in order to ensure that the right knowledge is brought to bear at the right time and to inspire innovation.

Innovation, Knowledge and Firm

The Business unit under study is Automation Unit of one of India's leading engineering companies. It has been operating in the field of Process Automation for the past 37 years and during these years, has gained lot of knowledge about various aspects of business. Traditionally India has been a very dynamic market and to establish itself among the top players in its segment

competing with many global brands business unit had to travel an exciting journey of struggles and achievements. Process automation is a field where technologies and products are wide in variety and get upgraded very frequently. Developing project execution capabilities, securing global footprint and grappling with exponential growth of business, the Business Unit has seen and experienced all of them. When they look ahead, as for any other Indian company, the way forward is to replenish the solution array with the technical expertise, domain knowledge and management and business skills which are now lying scattered as packets of information across the Business Unit. To ensure this they should establish an efficient flow of ideas and information across the Business Unit and build a learning organization and an innovative workforce. The research study is an effort to study the bottlenecks in efficient flow of ideas and information across the SBU which hamper innovation and to suggest measures which can be adopted to build a learning organization which thrives on innovation.

Organizational Research, Analysis and Recommendations

The challenge was to identify the bottlenecks in efficient flow of ideas and information across the organization and discover the root causes. Based on discussion with the top management, my own insights of the SBU being a former employee and a superficial analysis of the present state of matters, I decided to focus on three factors, namely, 'The Organization', 'The People' and 'Knowledge Management Paradigm'.

A questionnaire consisting of twenty questions was prepared. The questions were framed such that the respondents could

answer objectively. It allowed measuring different parameters such as Efficiency of Existing Practices, Employee Awareness, Scope for Improvement and Scope for Innovation. 50 respondents were selected cutting across the entire SBU.

Factor One: The Organization

- Existence of a medium to facilitate sharing of information /ideas/experiences independent of the functional role of the parties involved.

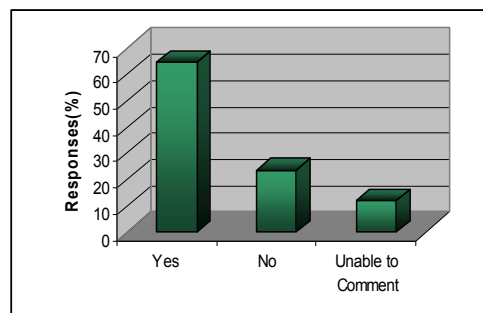


Figure 3 Existence of a medium

Majority of the respondents felt that existing arrangement could facilitate the sharing of information/ideas/experiences however they have downplayed its effectiveness. The rest felt that a new system should be put in place.

- Ensuring the quality of reception/identification of signals of opportunities by frontline employees

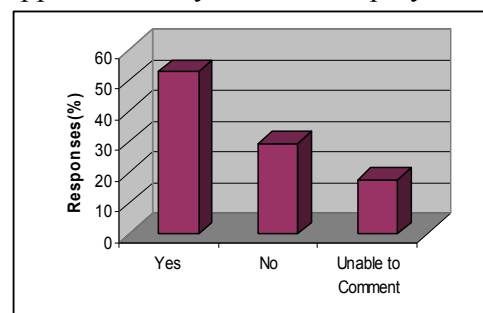


Figure 4 Quality of reception

Half the respondents are happy with the efforts the organization is making to ensure and enhance, whenever required, the ability of the frontline employees in

quality reception of signals of opportunities. Some felt that there should be individualized efforts to meet specific assignment needs.

- Loss of relevance of knowledge/information when there is a change of context

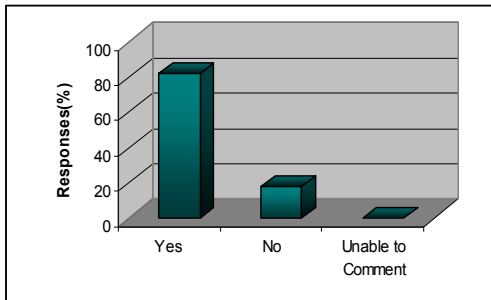


Figure 5 Relevance of Knowledge

Most of the respondents felt that loss of relevance of information is a cause of concern while transfer of knowledge takes place within and outside the organization. It came through that the concern is not addressed effectively and information which could be useful is lost in the process.

- Tool to capture and share the institutional experience of managers

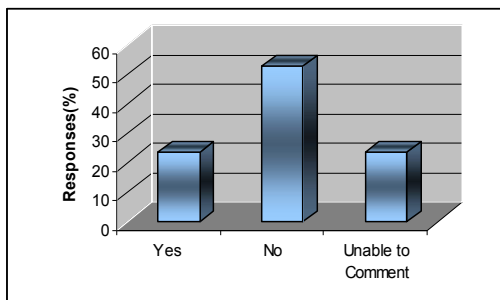


Figure 6 Tool to capture experience

More than half the respondents feel that there is no effective tool to capture the institutional experience of the managers whether it is dealing with a crisis situation or developing a new product or expanding business into a new area.

- Efforts to captivate the freshness of mind of new recruits before they get moulded by your organization's philosophy

The response was mixed but it was realized that the efforts are made in islands and there is no organization wide standard practice.

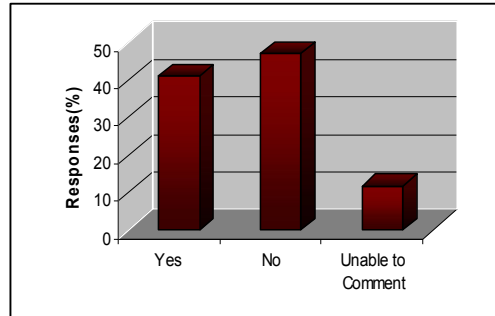


Figure 7 Captivating on freshness of new employees

- Existence of a process to tap the domain expertise for innovation

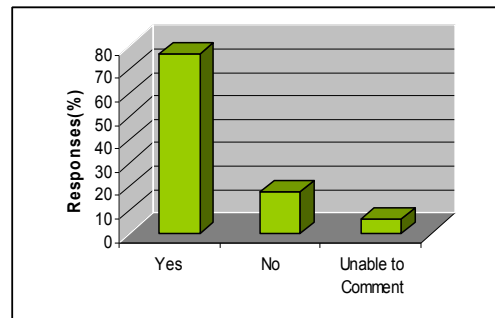


Figure 8 Tapping expertise for innovation

Most of the respondents are of the opinion that efforts are being made to tap the domain expertise for innovation though they are yet to see results. Rest felt that more focused efforts could be made in this direction.

- Sharing of market information among employees irrespective of their functional role

The responses show that sharing of market information doesn't happen across the functions. It is largely shared only among the sales & marketing functions.

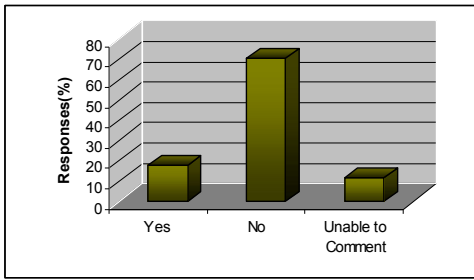


Figure 9 Sharing of Market information

- Encouragement of suggestions for changes/improvements by the management

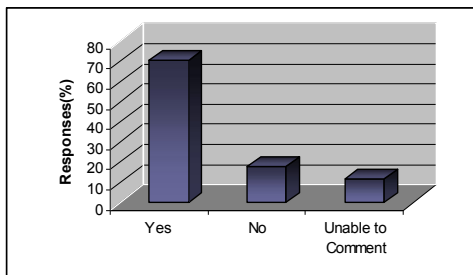


Figure 10 Encouragement for suggestions

Most of the respondents feel that management encourages suggestions for changes or improvement whenever they are made.

Factor Two: The People

- Difficulty to transfer any new information between employees

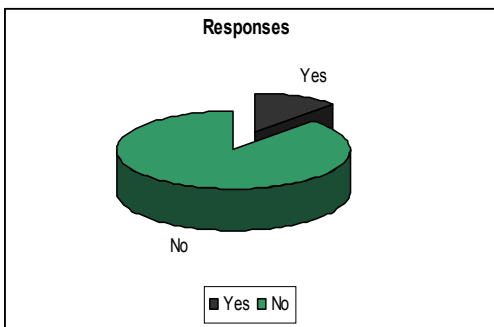


Figure 11 Transfer of Information

Most of the respondents feel that they don't face any sort of difficulty in communicating any new information to a colleague/subordinate.

- Awareness of techniques employed by organization to utilize the intellectual capacity of employees

Half the respondents were not aware of any technique employed by organization to utilize the intellectual capacity of employees. This was more the case among entry level employees.

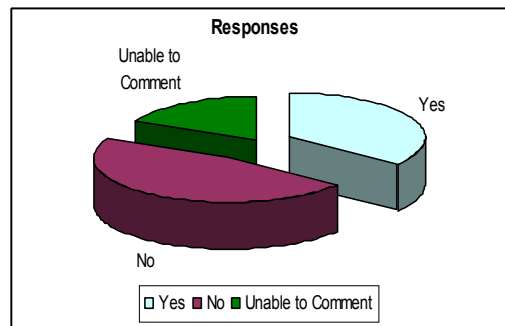


Figure 12 Awareness of techniques

- Participation in employee contests like slogan/design/success story competition

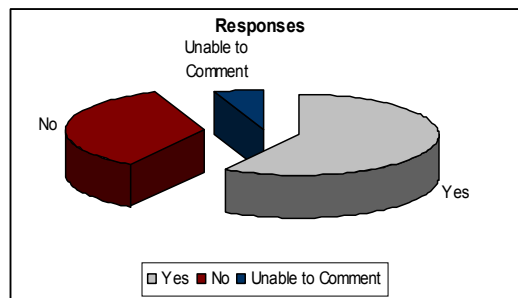


Figure 13 Participation of employee

This question is related to the above question and the intention was find out whether the lack of awareness, if any, about techniques employed by organization to utilize the intellectual capacity of employees is due to lack of effectiveness of such techniques. But the positive response makes it clear that it has more to do about the lack of clarity about the objective of such measures.

- Being proactive towards improving a process

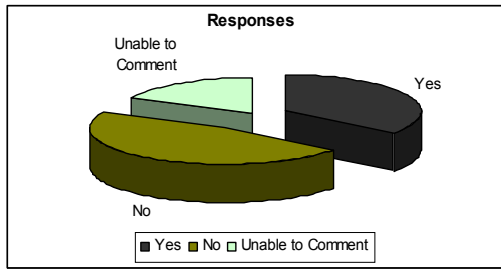


Figure 14 Proactive towards process

Half the respondents view innovation as a time consuming process and feel that it is not their direct responsibility. They don't see any tangible benefits from it.

- Involvement in a product development/process improvement in the last year

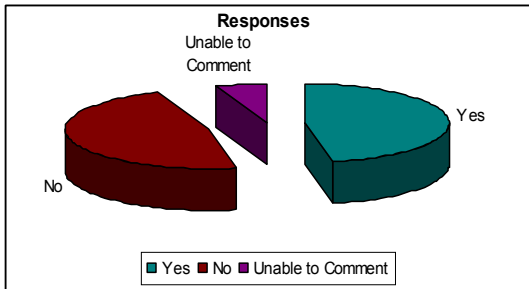


Figure 15 Involvement in product development

Employees have been exposed to routine process improvement measures which do not necessarily lead to innovation.

- Awareness of rationale behind organizational changes

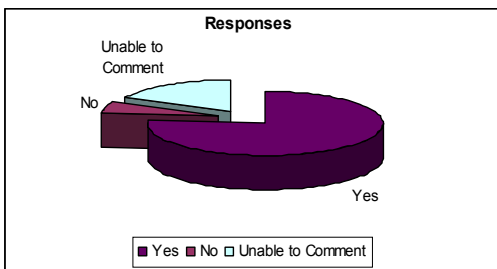


Figure 16 Awareness of organizational changes

Employees are conscious of the objectives of the changes which have happened organization in the past, with specific relevance to restructuring and expansion of the business.

- Looking ahead

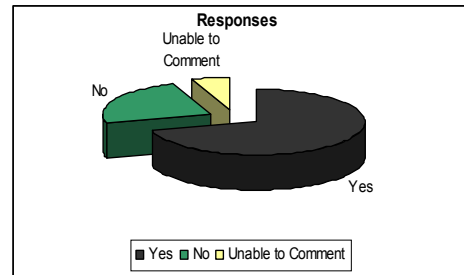


Figure 17 Looking ahead

Majority of the respondents harbor ideas which they feel could help the organization to innovate.

Factor Three: Knowledge Management Paradigm

- Evaluation of Knowledge Management System (Need to be restructured?)
Most of the respondents said that the present system is not properly structured and there is lapse in efficacy and quality in the system.

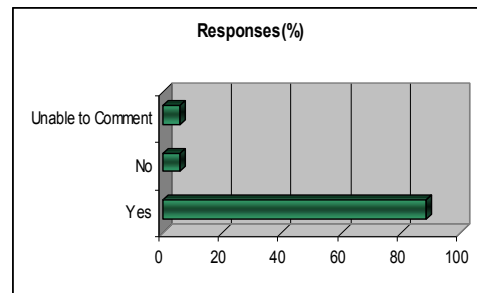


Figure 18 Evaluation of KMS

- Knowledge for only information OR for innovation also? (Does it promote innovation?)

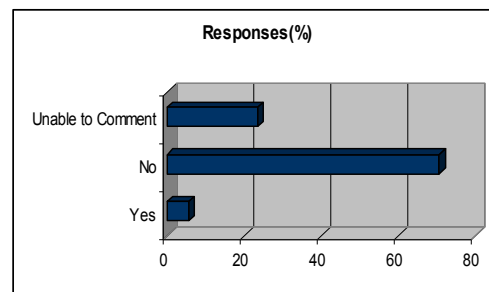


Figure 19 Knowledge for Info/Innovation

Majority of the respondents felt that the present knowledge sharing model is more a data warehouse and is not enabling innovation by itself.

- Awareness of Techniques in use for Knowledge Management

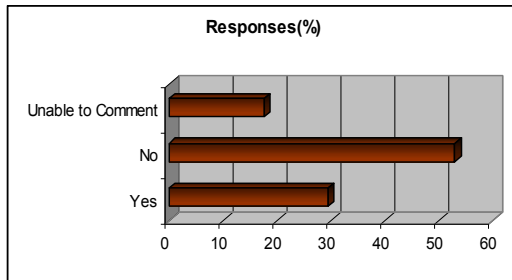


Figure 20 Awareness of KMS techniques

Only 30% of the respondents are fully aware about the various methods employed in the SBU for Knowledge Management.

- Is knowledge management a cost center or an innovation center?

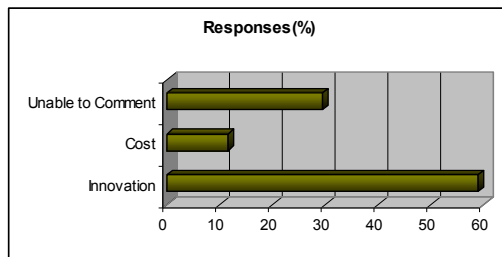


Figure 21 KM cost/innovation center

While half of the respondents perceive knowledge management as an Innovation Center, there were some who were unable to demarcate the two.

Findings

On deeper analysis of the responses to the survey I could identify the following areas for improvement:

- Knowledge utilization is restricted to just information and it is not taken to the next pedestal, i.e. innovation.

- Existing arrangement of communication flow in the organization is not oriented towards innovation.
- No concerted efforts to help the frontline employees develop a keen eye for opportunities.
- No existing tool to capture and share the institutional experience of managers.
- Lack of uniformity in efforts to captivate on the freshness of mind of new recruits.
- Management already recognizes domain expertise as an enabler to attain business objectives, some steps have been taken already. There is a need, however, to align the entire workforce in that direction.
- Lack of awareness among employees about the measures adopted by the management to utilize the intellectual capacity of the employees.
- Lack of initiative in face of opportunities for innovation amongst employees.
- The present Knowledge Management System exists as islands of information which makes it difficult to use.
- Apathy of employees towards Knowledge Management and hence their ignorance towards various methods employed.

Recommendations

- Building a culture of innovation

Slogans- It is one of the best tools to promote and utilize the intellectual capacity of employees.

Honda is a company which uses slogans prominently in product development. In 1978, when the management felt that existing models like Civic and Accord were becoming too hackneyed they inaugurated the development of a new concept car with the slogan 'Let's

Gamble'. This provided the team with a direction and prevented it from going astray. This gave birth to the 'Honda City', a car with revolutionary styling and engineering that was prophetic (Garvin, 2007, p.99).

Innovation Board- An online board to register employees' ideas and insights which they think can facilitate innovation should be set up. To ensure relevant suggestions the management should guide their employees. This should be followed by an evaluation by a committee consisting of employees. A plan of implementation of meritorious suggestion should then be chalked out.

Analogies/Models- When Canon's management decided to develop a low cost personal copier the analogy they used was a 'beer can', which was something cheap and easily disposable. The outcome revolutionized the market and their sales went up the roof. Using the technique of analogies, an organization can innovate its processes and approaches in any business function.

Awareness- Consistent efforts through interactive sessions and other modes of communication is required to instill the business vision in the employees.

When Sharp invented the first low power electronic calculator company management coined the term 'Optoelectronics' which represents an image of the world that Sharp wants to live in. They magnified its impact far beyond R&D and engineering departments in the company. Under this rubric, Sharp has moved beyond its original success of calculator to become a market leader in a basket of products (Garvin, 2007, p.104).

Innovation in Reports- Scope for Innovation should be made a part of every report generated in the business unit at the completion of a process. Under this head, the person preparing the report should share his insights and ideas which could help innovation.

Young Minds- A standard practice of asking new recruits to present a report on innovative improvement suggestions one month into job could be adapted.

Keen Eyes- Frontline employees should be given training to look out for opportunities or scope of improvement in their field of operation.

Learning History- Tool to capture and share institutional experience of managers. A report which could be used by any team embarking on a similar journey to have an idea of the challenges they could face, strategic decisions which aided in successful implementation in the past etc.

Dreaming Sessions- are sessions in which GE invites some of its most senior customers to discuss and debate market trends and senior GE executives. GE uses these sessions to help prioritize R&D project spending. We could follow the same to identify which technologies to adopt and which areas to focus.

Innovation Tournaments- making new ideas from employees compete with one another in numerous rounds of vetting that is, by running them through "innovation tournaments" so that the strongest and most promising ideas make it to the final round (C. Terwiesch and K. Ulrich, 2009, p.17).

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- Towards better Knowledge Management

Consolidation- The present structure of KMS is very fragmented with information lying at different places in different formats. A consolidation is required to enable ease of search.

Audit- Interlocks need to be formed and an audit is required to ensure the quality of data which is present in the system. Some steps have already been taken to ensure proper documentation of a project before handing it over to Services Department.

Interest- Measures should be taken to generate interest among employees to increase participation in contribution and utilization of data. Competitions/Promotion Presentations which could increase the popularity of KMS should be organized.

Tata Steel and Maruti Udyog Ltd are among the Indian companies those have successfully implemented a KMS. Tata Steel follows three strategies for managing organizational knowledge. Knowledge can be contributed either by an individual (codification) or a team or a group of people (Personalization). The first two strategies enable capture and systematic storage of knowledge, whereas the third strategy (Knowledge Diffusion) derives the benefit of replicating best practices identified in the repository and thereby eliminating the 're-invention of wheel'.

Way forward for the BU- Propositions

The following initiatives were proposed which BU could take up in its way forward:

- Technical Consultancy Services

- Leveraging Domain Expertise through IT Solutions- Facility Management Systems
- Developing IT based Automation Products in segments where there is dearth of Indian players (Infrastructure- Road projects, Port Automation & Buildings; Transport- Rail, Road, Water & Air, Power Projects)

Unexplored Areas

In this study the focus has been on how to innovate the way knowledge flows in an organization to make innovation possible and how to create and sustain an innovative culture in the organization. Some other areas which were identified for further study but couldn't address in this report:

- Knowledge Management System is a topic which could be dealt in much more detail but couldn't complete in such a short duration. What should be the salient features of KMS for BU is an area where further study is required.
- The design of an organizational structure that makes a continuously innovating company possible.

References

Garvin, David, *Building a Learning Organization*. Harvard Business Review on Knowledge Management, 2004.

Donoghue, Leigh P., Harris, Jeanne G. and Weitzman, Bruce E., *Knowledge management strategies that create value*. Accenture Outlook, 1999.

Johnson, Brian R. And Darnell, Lisa, *New Strategies for Reversing the Recent Trend*. Knowledge Management: The ROI of

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Employee Braintrusts, Hitachi Consulting Corporation, 2005.

Girotra, Karan; Terwiesch, Christian And Ulrich, Karl T., *Idea Generation and the Quality of the Best Idea*. Management Science, 2009.

Monteiro, L. Felipe; Arvidsson, Niklas And Birkinshaw, Julian, *Knowledge Flows Within Multinational Corporations: Explaining Subsidiary Isolation and Its Performance Implications*. Organization Science, January-February 2008, pp. 90-107.

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