

Innovation management

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Abstract— The aim of this paper is to define potential areas of innovation management trends with an outline for the most relevant academic research and management practice areas and directions. Make the most effective use of the limited resources; focus on one of the following:

- 1) Operational output
 - 2) Top-quality products
 - 3) Perfect customer knowledge
- Design / Methodology / Approach:

Main research patterns in innovation are extracted from a thorough review of literature. Additionally, to finally develop a conceptual framework it identified major macroeconomic trends and new technologies. A good or a service which is new or improved significantly. This includes substantial improvements in technical specifications, components and materials, product software, user friendliness or other functional features.

– Findings

The paper acknowledges seven main areas for future research in innovation management theory and practice. These sectors include consumer focus, network management, sustainability, frugality, intellectual property, business model and global innovation. Based on paper literature analysis, the paper offers a conceptual structure based on Intra Company and external accountability, as well as the short-and long-term strategic perspective. In the end, future research fields will be added. The paper addresses seven key areas for future research at innovation management theory and practice.

– Originality / Value:

The paper presents a new conceptual framework and outlines a holistic view of the topics for managing innovation in the coming years

Keywords: Policy, Management, Imagination, Frugal Innovation with an Emphasis on Users

I. INTRODUCTION & PURPOSE

Work on innovation management has been increasing in importance over the past few decades, as many scholars have explored an immediate effect on the competitive edge of companies around the world R&D is just one of those tasks, and can occur at various stages of the innovation process. It can play not only the role of the initial creative source of ideas but also the role of a problem-solving mechanism that can be solved at any point of implementation.

Management "is a concept that is commonly used in organizations. It describes task management and operation planning to accomplish a defined purpose and objectives.

As a consequence, innovation management is the organized implementation of corporate technologies which involves strategy, coordination, management and control activities.

Creativity management addresses all steps aimed at promoting creativity in companies and creating benefits such as:

- New products and services to conquer new markets
- Improved products and services to differentiate itself from competition.
- Developing internal processes with a view to developing the company from within or reducing costs.
- Development of new business models to leverage new revenue streams.

A. Tasks and Areas of Action in Managing Innovation

Innovation management forms two major pillars:

- On the one hand, creating system conditions so that ideas are produced and converted into productive innovations everywhere in the business. It is very much about the practices for organizational growth.
- And the real invention, on the other hand, the successful quest, development and implementation of ideas.

Concepts of innovation have been adopted and applied increasingly in actual business practice. This is true of small and medium-sized enterprises (SMEs), where tools for innovation (von Hippel, 2001) such as toolkits (Prügel and Schreiber, 2006) and networked organizational structures have been established and widely utilized. Bigger organizations are even more successful in integrating innovation management, and particularly open innovation (Brem, 2008), due in most cases to their higher R&D activities (Orlander et. al. 2011).

In addition, Ahlstrom (2010, p. 11) refers to the macroeconomic value of innovation management, noting that its main objective is to "generate prosperity and bring significant benefits to an increasingly wide range of the world's population," following Schumpeter's ideas of the macroeconomic significance of inventions.

Management of innovation has thus become recognized as a field that is most actively researched, giving management an even stronger theoretical foundation. While several papers discussed the idea of open innovation after Chesbrough (2003) coined the term in 2003 and took it to a wider audience in 2006 (Chesbrough 2006), the scientific community has yet to establish a holistic approach to the possible disciplines of innovation management.

With this paper, we provide a strategic perspective on innovation management fields and create a conceptual framework for naming fields and categorizing them into new branches and research streams, that is to say, we provide an outlook on aspects such as marketing, sustainability.

II. LITERATURE REVIEW

A. *Speeding up Market Business & the NPD*

The first area we identified for the future is global innovation and the development of new goods. This is an impact of rising global competition, particularly in the R&D-intensive industries, forcing former industry leaders, especially in the technology industries, to face a stronger and harder competitive environment. Another issue is the need to get to market quickly and respond to shorter life cycles of goods. While Trott and Hartmann (2009) criticized this definition, this still holds true for many cases. Once rivals do it, there is also a need to put innovative technologies to market (Crawford, 1997; Lüthje, 2007). Samsung, Apple and Nokia prove on the smartphone market, It is worth watching a variety of innovations and strategies closely, as they have direct implications for management practice to deal with these problems.

One strategy to overcome these problems is the use of new technology such as rapid prototyping, the use of 3D-printers as intra-organizational means, and the involvement of early adopters to use them as product testers. The increasing number of "beta "- versions that find their way to the consumer and remain for years with "beta "- status serves as evidence for that. Google Mail (beta status for more than 3 years) or Yahoo Mail for more than 4 years after the initial launch are examples for this.

One dimension of this idea is the enhancement of goods which have already been released and are, step by step, improved with features and functionality. This phenomenon is particularly evident within the software industry. But the upgrade of devices with updates is also a common way for mobile phone manufacturers to make production cycles shorter.

B. *Network Organization & Organizational Design*

Another big trend is the idea of global networks for creativity. Kim and Park (2010) reported that both its foreign R&D network and international gatekeepers have a positive influence on the innovativeness of a company. Such forces impact both internal and external study. Installing network systems within the business is strongly linked to the idea of new aspects of product design already described and can be useful for two main reasons.

Firstly, the organization's network character simplifies connectivity and the exchange of ideas. Having cutting-edge information and communication technology helps improve the ability of businesses to innovate. Tools such as Video Conferencing and Worldwide Chat allow virtual teams to work more efficiently together. Hence, it helps companies to exchange important ideas worldwide and is strongly connected to all concepts of knowledge management.

C. *Intellectual Property*

Such principles can also take us to another level that is primarily dominated by the idea of open innovation, but besides that, still has some important aspects. NPD's internal strengths and innovativeness matter. It has already been widely accepted that opening up the company to innovations and finding their way out can help companies greatly boost

their potential for innovation (Jones et. al. 2001, Bader 2008). Chesbrough (2006), as well as others like Grönlund et. Al. (2010) described this as one of the main aspects of open innovation and there have been many extensions, including Research on specific issues surrounding this topic. Cohen and Levinthal (1990) describe the benefits of a combination of inside and outside knowledge.

D. *Business Model Innovation*

Dealing with IP can be a major part of the core business of a corporation, and can help significantly boost financial performance (Jones et. al., 2001). It thus leads us to another subject, the use of new business models and business models innovativeness. Also, other aspects of business model innovations are becoming more relevant for the competitive environment. Teece (2010, p. 172) notes that "without a well-developed business model, innovators will either fail to deliver-or extract value from their inventions." Furthermore, Chesbrough (2010) confirms that a lack of ability to identify new business models to commercialize on new products and technology can be a serious threat to businesses.

The definition of the "born globals" shows that creative, scalable business models tend to be available almost anywhere on the globe and therefore can exploit their rivals, primarily multinational companies (Kim et. al., 2010). Internationalization is therefore an integral part of a scalable business innovation (Knight and Cavusgil, 2004). Also, concepts as the flexibility and scalability of business models play an important role for innovation driven business models (Bock et. al. 2010) and are especially important for strategic responses to rapid changes of the firm's environment. Finally, business model innovation has to be customer based, creating more sustainable value for the customer, not only for the company (Zott et. al. 2011).

E. *Frugality*

The concept of Frugal Innovation aims at modifying and adopting products to foreign, emerging markets on the one hand, and the establishment of R&D capacity and product development centers on the other hand.

F. *Sustainability*

Frugality definition leads to sixth phase, the principle of sustainable innovation. The scarcity of resources and the incredibly growing population in most countries lead us to the conclusion that in terms of these facts inventions should be produced. Frugality postulates a definition whereby goods are easier to produce and are more suited to consumer use in emerging economies. Given the increasing demand on the customer side in those countries and the willingness to reach countries' wealth in the Western world, it seems clear that innovations need to be developed with a maximum level of sustainability, low resource demands and less dangerous pollution. Both the community and individual customers will bring pressure to act as an environmentally responsible organization (Le Menestrel and de Bettignies, 2002). Therefore, innovations that support integrated, sustainable supply chains will help to improve financial performance (Clemens and Bakstran; Zhu and Sarkis, 2007, 2008) and also drive benefit by incorporating suppliers into the

innovation cycle (Hagedoorn, 1993, 2002), thus integrating them into achieving the goal of sustainability.

G. Customer Oriented Innovation

Customer-oriented innovation is the last but not least important aspect of our vision of the future of innovation management and rounds out the explanation of components of our frameworks. It becomes easier than ever to gather data and learn more about customer needs, primarily through new technologies and the convergence of several fields of information processing. Contrary to most recent literature in the past few years, our approach often takes into account philosophies and factors other than just the idea of Open Innovation to bring the consumer into our system. First, we explain the idea of users as creative helpers, then we take a closer look at user innovativeness and the goodwill gained from creativity from the consumer.

H. Lead User Concept

Clearly the lead consumer definition must also be classified for our classification. This model aims to incorporate the consumers as soon as possible and to draw on user interaction as problem solvers. This is yet another example of the leading role played by user-oriented innovations, not only in terms of customer experience and service innovations, but also in generating those. The concept plays a significant role in the literature on open innovation (von Hippel, 1988; Brem and Voigt, 2007; Herstatt, 1991). It is traditionally used in B2B markets, such as the medical industries (Lettl, Herstatt and Gemünden, 2006) or consumer markets, as Bilgram et al. (2008) indicate. The use of Web 2.0 (O'Reiley 2002) platforms such as social networks and the willingness of large parts of customers to produce content have become more relevant.

III. FURTHER RESEARCH

The system for both strategic practice and academic research incorporates concepts.

Therefore, the conceptual framework and our discussion of potential review areas can help other researchers recognize future directions of research on innovation management that need to be concentrated on, as some of them can also be identified in recent studies, for example. Eagar (1991). Such areas are the subjects of marketing and marketing research and also NPD-innovation fields of study such as methods of imagination and psychographic methods in marketing, especially in the field of consumer orientation. Crowdsourcing also seems to be a promising area of study, but we couldn't find enough evidence in our studies to make it an autonomous field of research.

The field of international management research will help to overcome gaps in innovation management research for global innovation and resolve the breaks we've seen in this area. Global management, but also studies on organizational behavior and architecture as well as human intelligence can tackle networked organization. Global management, too, will lead to frugal innovation in research into innovation management. Often, the disciplines of NPD research apply in this area. The field of business model innovation in particular is a cross-disciplinary research field;

it can follow all of the above-mentioned sciences but also strategic management analysis. In terms of intellectual property, business strategy and technology management are important disciplines. The most strategic field, sustainable innovation, can be guided in particular by strategic management research, but also by value chains research, or corporate social responsibility and business ethics.

The approach can also be useful in organizational environments where creativity as a management activity is not significantly distinguished in terms of functionality and not delegated to specific posts or departments, but is performed in a less professional manner, as seen in smaller companies. With the help of our framework, smaller enterprises with less knowledge can decide in which area of innovation management a long-term investment is worthwhile.

IV. LIMITATIONS

Innovation management ideas have been widely implemented, but there has so far been a lack of a systematic structure that takes into account basic concepts the system provides areas for further studies, as much knowledge on interdependencies and further empirical research is still required in each of the topics.

Our work naturally also faces certain limitations. Second, it is based solely on literature review, and not enriched with qualitative or quantitative knowledge. Obviously the sample size from literature repositories is comparatively broad, but still small.

It should also be noted that the fields of our philosophy should also be seen in managerial education under the implications of our policy and the theory of innovation. Following an overview of fields and disciplines that have a high potential to contribute to research on innovation management, we still want to look at education in management. Also, the fields listed in the above paragraph indicate important topics that educators in innovation management should look at and concentrate on both university and professional education.

REFERENCES

- [1] D. Ahlstrom (2010), "Innovation and Growth: How Business Contributes to the Management Perspectives of Society Academy" Vol. 24 Number 3, pp. 11-24.
- [2] Afuah, — A. (2001), "Company's Competitive Limits: Is it easier for businesses to be vertically integrated in the face of technological change?" Academy of Journal of Management, Vol. 44 No 6:121-1228 pp.
- [3] Albach, H (1989), "Innovation Methods to Boost Competitiveness," Journal for Business Administration, Vol. 59 12, pp. 1338-52.
- [4] Allen, TJ (1977), "Managing Information Flow: Technology Transfer and Software Dissemination in the R&D Organization." MIT Printing, Cambridge,
- [5] Amabile MA, M.T. (1997), California Management Review, Vol. "Motivating creativity in organizations: Doing what you love and loving what you do." 40 No.1, 39--& pp.
- [6] S. Paroutis and S. Angwin, D. Mitson (2009), "Connecting Strategy: Are Senior Managers of Strategy

- a Missing Link?" Review of California Management, Vol. 51 No.3, 74+, pp.
- [7] Arora, A., Gambardella, A., (2010), "Rent Ideas: a Review of Technology Markets," Industrial and Corporate Development, Vol. 19, No. 3, pp. 803-775.

