How to Improve Management of Ideas

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Universal Publishers
USA • 2002

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The original work was created in July 1998 in Portuguese as an MBA thesis on Information Management at Universidade Católica Portuguesa.

Universal Publishers/uPUBLISH.com
USA • 2002

ISBN: 1-58112-606-9

www.uPUBLISH.com/books/santos.htm

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Acknowledgements

I would like to thank Prof. Doutor Palma dos Reis for his co-operation and time as this thesis advisor. In the making process of this work, the exchange of ideas with several people was extremely valuable and I express here my deepest thanks to Dr. Lino Fernandes and Eng. Carlos Lajes from the Portuguese Innovation Association, to Prof. Doutor Laranja from AITEC, to Prof. Doutor Paulo Amaral, to Eng. António Jantarada and to Dr. Silva Henriques from INETI.

I also express my thanks to other people whose conversations and classes helped determine this thesis subject and some of the topics referred in it, such as Dr. Rodrigo Magalhães, Prof. Doutor Carlos Marques and Prof. Doutor Adriano Freire.

I can not end without saying a word of appreciation for the co-operation of Dr. Isabel Falé and a special thanks to my wife and family.

Abstract

Innovation has a more and more important role in all industries, leading to a growing interest on the efficient management of the innovation process. For a better understanding of this process, it has been organised in 5 stages: idea generation, idea selection, idea development, idea implementation and revision.

This work provides a short review for each one of these 5 stages of the innovation process, its tools, methodologies and processes.

The AutoEuropa case study, described in this work, illustrates an innovation process in which a large number of tools and methodologies have been used with excellent results. In this case, a prototype idea management system has been used with a strong impact on the results, specially, at the organisation and productivity level of the idea management team.

For a better understanding of the current practices of innovation management, a survey has been developed, distributed and analysed. The survey results provided information on which are the tools and methodologies more used and graded the organisations as active, watcher or passive. From the analysis of the results, it was possible to detect significant correlations between the use of the different tools and confirm that the organisation described in the case study had made a strongly innovative initiative.

1. Introduction

The increasing change rate creates a growing competitiveness, which demands excellency from organisations in Idea and Opportunity management. This work, whose tittle is "Idea and Opportunity Management: Prototype development" fits in the confluence of the innovation, systems and organisation areas.

The goal set for this work is to provide the answers to the following questions:

- What is the awareness of the need to seize ideas and opportunities? What is the evolution tendency according to the specific literature?
- What is the awareness of the need to manage those ideas and opportunities and how is it done?
- What benefits can such a management system offer?

To find the answers to these questions, we present in chapter 2, the results of the bibliographic study, identifying several tools used and some approaches and attitudes towards Innovation and its management.

In chapter 3, we present a case study, the AutoEuropa's product cost reduction group, and the prototype developed from an idea management support system. Besides the analysis of the benefits obtained by the prototype, it is also

analysed the specific use of several tools and the innovation management process also used.

In chapter 4, through a survey on Innovation in Portuguese organisations, the most commonly used tools and methodologies are presented, and also the correlations between the use and the importance of each one of these tools and methodologies. The importance of Innovation is also mentioned, being the organisation's profiles towards Innovation also specified.

In appendix, it is presented the survey developed.

As restrictions to this work, it should be mentioned that it only presents some tools and methodologies, in a summarised way, due to the existence of a large number of works about this subject, some of which are mentioned in the bibliography. There are also restrictions at the confidentiality level of some of the data about the case study, which is why, sometimes, the values are merely illustrative. The prototype is only a support for the defined functions for an Idea Management support system.

2. Innovation, its management and process

In this chapter it will be identified how is the idea and opportunities management done.

For this it is proceeded an initial analysis on the awareness that there is a need for innovation, by making a small contextualisation in modern society (cf.2.1).

Next, it is approached the innovation process management (cf. 2.2) its tools (cf. 2.3) and methodologies (cf. 2.4).

As a support to the decision processes of the innovation process, decision **support systems** can be used, that is why we included a small summary of the same systems, in the innovation's perspective (cf. 2.5).

2.1 The awareness of the need to innovate

"Time changes, Will changes,
Man changes, trust changes;
The world consists of change,
Taking on always new qualities."[2]
Camões, XVI th century

Since the beginning of time innovation and change were needs felt by Man. Not only needs but also one of the main assets for his survival and prosperity.

Our pre-historical ancestors had to fight against a hostile environment. Not having the right physical characteristics Man, using his ingenuity, succeeded in adjusting to his environment with considerable success (Morris, 1967).

Through out time, Man continued using his ingenuity, in such a way that, in more developed countries, food needs and other consumer goods are assured by a diminishing fraction of the population (Stewart, 1997). Productivity continues to increase making, according to Drucker (1995),

[2]In Portuguese "Mudam-se os tempos/ Mudam-se as vontades/Muda o ser/Muda a confiança/Todo o mundo é feito de mudança/Tomando sempre novas qualidades"

transport productivity and consumer goods production to raise 45 times in the last 125 years. In the U.S.A., 2,8% of the active population working in agriculture produces 8 to 10 times more food then that were produced in the beginning of the century (Drucker, 1995) by as 6 times more farmers.

Today we work, through out our lives, half the time our grandparents worked (Handy, 1994), and yet our life standard is much higher economically speaking, and also in our life expectancy, etc.

The coming of the information era explains the increasing pace of change in every level of society. Thus, we can see the changes that exist at the social level (cf. 2.1.1) and the challenge that comes from the increase of the amount of information (cf. 2.1.2) and from organisations' life itself (cf. 2.1.3). All these vectors lead to a growing diffusion of the need to innovate, which becomes a challenge (cf. 2.1.4).

2.1.1 Social level change

In general society, there are new consumption habits, new social behaviour patterns, new affirmation symbols, new radical sports, new entertainment locations and ways. We have been watching, thus, to a change in life's stages with a greater confrontation of life styles. These can be seen through the growing role of fashion.

Changes in society are so intense that today it is almost impossible to imagine the life our grandparents had. For example, in the 1910's British Census a family that employed less than 3 servants was considered «low middle class» (Drucker, 1995).

This stunning evolution affects people and the physical and mental balance, as Marc (1994) refers the number of inmates in mental institutions increased 14 times in France since the beginning of the century, the number of thefts quintuplicated in 25 years, in Germany the number of people suffering from hypertension that live in agitated areas is 50% higher than the people who live in more quiet areas.

I believe that these examples are enough to demonstrate that on the social level, in order to answer these new issues, the consequence is the need to innovate. What to do with so many thefts? How do we protect ourselves? How to stay sane ?, etc. All these questions need new answers.

The impact on social changes, in innovation terms, has to do as well with a growing level of education, which, combined with the increase of life's expectancy, contributes to the fact that today, more than half the number of scientist of past times, are alive. According to Naisbitt (1982), the number of people working on the education sector is higher than the number of people working in agriculture in the USA. If we take into consideration the investments on

education, research and development we come to the conclusion that in more developed countries these values represent a major part of investments.

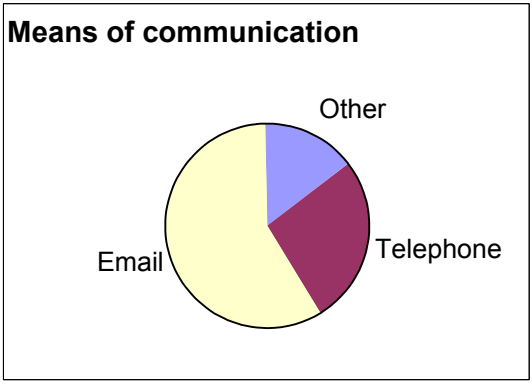
2.1.2 Information level change

Scientific knowledge doubles every 5 to 7 years (Naisbitt, 1982; Hughes, 1996). In some areas the growth is even faster. The amount of information we have access to increases every year. More and more the restriction is on the ability to find and assimilate the most relevant information for each situation.

The several means of communication also **increase their broadcasting capacity**, for example, a sole edition of "The New York Times" contains as much information as a XVII century man could have access to during his lifetime (Shenk, 1997). The first newspapers had only one page in contrast to modern newspapers.

The phenomenon is emphasised by the **increase of the number and means of communication**. In Portugal, from the 80's onwards we started having dozens of radio stations and more TV stations. It is a global phenomenon, West (1992), for example, states that the number of magazines increases to a rate of about 15% a year. According to Naisbitt (1982), there were in the U.S.A. 13000 periodicals

and 9000 radio stations compared to a few hundreds 30 years before. In Portugal there are actually published 5 000 new book titles but, for example, in the U.S.A. this number is above 50 000.



Besides the development of the existing means, **there are new means of broadcasting information**. Examples of this, in the last few years are Cable TV, the Internet and e-mail. Stewart (1997) gives the example of HP where, in 1994 each employee already exchanged an average of 200 e-mail messages a month. In this graphic it is visible the importance of the several means of communication, according to a survey done by Ernest & Young according to information taken from the Internet (Live News, 1998).

Nowadays, it is not possible to comprise all the available information even in smaller areas. For example, in a research

on the Internet one can find over 600 books with the word Innovation in the tittle.

Information takes on **more tight and compact formats**, for example, between 1965 and 1995 the average TV advertisement went from 53,1 to 25,4 seconds (Shenk, 1997).

This explosion of the amount of information, and the speed at which it is possible to broadcast and process it (West, 1992; Landauer, 1995) leads to the situation where novelties and interesting ideas are broadcasted at a higher and almost instantaneous speed.

This explosion of the amount of information available and accessible makes knowledge to be the main source for individuals and economy in general terms (Drucker, 1995).

We live in the Information Age and its importance is such that in the USA the companies' investment in computers, communications and other means of information manipulation has surpassed investments in other types of equipment (Stewart, 1997).

2.1.3 Changes at the Organisation's level

- What is the awareness of the need to seize ideas and opportunities?

In **organisations'** life **we** are watching the deregulation, the internationalisation, the withdrawal of protectionisms and a growing market power, creating a higher competition level that is done at a more intense and global level.

In order to survive and prosper the organisation has to adapt to new production methods, new distribution methods, to a new organisation structure, to new definitions of working posts, new internationalisation strategies and to a whole set of changes.

The continuous challenge is in new or improved products and services that appear everyday, sometimes from the other side of the world, and change the society's reality, as well as work and organisation's realities (Simões, 1997). In the large commercial areas in the USA, there is no room on the shelves for all the new products put on the market due to their large number. Many suppliers have to pay shelf space to be able to sell their products.

To better serve these restricted niches a growing amount of versions and variations of the same base product are being produced, in the very limit each product is produced for just one specific client.

The rhythm of change at every level is extremely fast nowadays (Simões, 1997), that is why today organisations in high technology areas have to run faster in order to maintain their position (Drucker, 1985).

Even at the non-lucrative organisation's level, there is a growing pressure for a more rational use of the existing means (Drucker, 1990).

2.1.4 The challenges

In Chinese the concept of change is represented by a set of two symbols: «danger» and «opportunity»; change is a mix of both things. (Camâra e al, 1997)

- What is the tendency of its evolution according to the specific literature?

According to Little (1998), over 84% of worldwide companies believe that innovation is more crucial for the success of their businesses now than five years ago. Less than a quarter feels that their performance in innovation terms, is enough to guarantee market success.

There is a strong awareness that it is necessary to innovate and that most organisations are not succeeding in responding to those needs in a more efficient way.

At the smaller organisation's level there is, many times, the need to survive on a daily basis, which clouds future perspectives (Simões, 1997). At the larger organisation's

level this problem is not felt because they already have their own structures. For them the "departmental wars" are the main obstacle for innovative projects to proceed (Midler, 1993). However, in order to be successful innovation must be able to mobilise the organisation's skills (CRESSON (quoted by Green Book on Innovation , 1995)).

This need to seize opportunities faces the specialists' resistance, due to the fact that it forces them to keep up with every technological advance, in their field as well as others related to it, this extra work, plus the insecurity on their ability to assimilate this information, leads to a resistance from these people who are fundamental for these opportunities to be successful (Hughes, 1996).

Financial accounting and other techniques are not sufficient tools to detect the loss of market position or the fact that one could not accomplish an innovation. With these techniques the mistake is only detected after it is done (Drucker, 1995)

It is necessary to seize the ideas and opportunities that come along. Big changes are, generally speaking, changes that already happened. For example, the number of doctors that, in Portugal, is going to retire within five years can be determined by the age of the doctors in active duty. Seldom do innovations, by themselves, bring big impact changes (Drucker, 1995).

This seizing has to be centred in innovation since the plain productive gain, as it has been done in Europe, can be overcome by another technology. Innovation must be considered both at the beginning and end of the production of goods and services (CRESSON (quoted by Green Book on Innovation, 1995)). Also Chevalier (1996) identified a correlation between innovation and economic performance.

2.2 Innovation process management

"It is possible to present innovation as a kind of school subject, learn it and practise it". (Drucker, 1985)

In order to understand what is the awareness of the need to manage ideas and opportunities and how it is done, several questions are raised in this sub-chapter:

- What types of innovation can be done? (cf. 2.2.1)
- What are people and teams' roles? (cf. 2.2.2)
- What is the strategy for innovation? (cf. 2.2.3)
- What is the tactics for innovation? (cf. 2.2.4)
- How is knowledge managed? (cf. 2.2.5)
- What kind of attitude can the organisations adopt? (cf. 2.2.6)

2.2.1 What types of innovation can be done?

Innovations can be of several kinds. According to West (1992), for example, an innovation can create a new sector, a new brand, a rearrangement, a change in design, a service change, a increase in performance, a technological reorganisation, a change in the process or a new package.

One can also classify innovations according to the intended results. In this case, the main goals for the organisation can be: cost reduction, quality improvement, new investment opportunities, new hiring chances, new products, better service to the public or greater employee satisfaction.

Basically, innovation with "the coming of new products, processes or services can be done **in every activity sector** both traditional or high-tech, public or private, industrial, agricultural or tertiary. Innovation can also concern services of general interest: public health, administration procedures, postal organisation or public education." (Green Book on Innovation, 1995)