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SUBJECT AREA: ORGANIZATIONAL STRATEGY AND BEHAVIOR

## Innovation as a Tool for Generating Value in the IT Services Sector

*A Inovação como Instrumento de Geração de Valor ao Setor de Serviços em TI*

*La Innovación como Herramienta para Generar valor para el Sector de Servicios de TI*

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### ABSTRACT

Facing growing competitiveness, innovation management in companies providing IT services has taken on a strategic and tactical design, a fact that can generate competitive advantages and reduce risks. The goal of this research is to identify parameters that are applicable to innovation management in the services field of IT companies. For research strategies, we carried out a literature search referring to innovation concepts, followed by a documentary research concerning the studied company's processes. For research technique applied to the strategies adopted, we performed a qualitative assessment based on a questionnaire using the social scale of attitudes amongst employees working in an

IT company's services field. For the study's main theoretical structure, we analyzed the concepts of innovation based on classical texts, which add up to a panel on innovation as an increasingly important factor in the economic scenario, besides crucial issues referring to the operation and implementation of innovation within enterprises. The results point to different elements capable of delivering value to IT businesses through innovation management. We concluded that, even in companies that already have pre-existing processes for dealing with the topic "innovation", there may be room for creating a process applied to innovation management. Our contribution, in this way, was to create added knowledge concerning the theory associated with aspects of

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innovation and the economic sectors linked to the provision of IT services.

**Keywords:** Innovation. Information technology. Business value.

## RESUMO

Em função da crescente competitividade, a gestão da inovação nas empresas prestadoras de serviços de TI tem assumido um delineamento estratégico e tático, fato que pode gerar vantagens competitivas e reduzir riscos. O objetivo desta pesquisa é identificar parâmetros que sejam aplicáveis ao processo de gestão de inovação da área de serviços de empresas de TI. Como estratégias de estudo, realizou-se uma pesquisa bibliográfica associada aos conceitos de inovação, seguida de uma pesquisa documental dos processos da empresa estudada. Como técnica de pesquisa aplicada às estratégias adotadas, efetuou-se uma avaliação qualitativa baseada na aplicação de questionário via escala social de atitudes junto aos colaboradores que atuam na área de serviços de uma empresa de TI. Como base teórica principal do estudo, foram analisados os conceitos de inovação advindos dos textos clássicos que compõem um painel acerca da inovação como um fator cada vez mais relevante para o cenário econômico, além dos aspectos essenciais relacionados à operacionalização e à implementação da inovação nas empresas. Os resultados apontam para o delineamento de fatores distintos capazes de agregar valor ao negócio de TI, mediante a prática da gestão de inovação. Conclui-se que mesmo em empresas que já possuem processos preexistentes para o tratamento do assunto “inovação” pode haver espaço para a criação de um processo aplicado de gestão de inovação. Contribui-se, assim, com o acréscimo de conhecimento relacionado entre a teoria associada aos aspectos da inovação e o setor econômico vinculado à prestação de serviços de TI.

**Palavras-chave:** Inovação. Tecnologia da informação. Valor do negócio.

## RESUMEN

Debido a la creciente competitividad, la gestión de la innovación en las empresas que prestan servicios de TI ha ofrecido un diseño estratégico y tático, hecho que puede generar una ventaja competitiva y reducir el riesgo. El objetivo de esta investigación es identificar los parámetros que se aplican a la gestión de la innovación en el ámbito de las empresas de servicios de TI. Como estrategias de estudio, se llevó a cabo una búsqueda en la literatura relacionada con los conceptos de innovación, seguida de una investigación documental de los procesos de la empresa estudiada. Como técnica de investigación aplicada a las estrategias adoptadas, se realizó una evaluación cualitativa basada en un cuestionario a través de la escala social de la actitud con los empleados que trabajan en el ámbito de los servicios de una empresa de TI. Como principal base teórica del estudio, fueron analizados los conceptos de innovación que proceden de los textos clásicos que conforman un panel sobre la innovación como un factor cada vez más importante para el escenario económico, además de las cuestiones cruciales relacionadas con la puesta en marcha y la aplicación de la innovación en las empresas. Los resultados apuntan a la delimitación de distintos factores capaces de agregar valor al negocio de TI, a través de la práctica de la gestión de la innovación. Llegamos a la conclusión de que incluso en empresas que ya cuentan con los procesos preexistentes para tratar el tema “innovación”, puede haber espacio para la creación de un proceso aplicado a la gestión de la innovación. Contribuye, así, a la incorporación de conocimientos relacionados entre la teoría asociada a los aspectos de la innovación y los sectores económicos vinculados a la prestación de servicios de TI.

**Palabras clave:** Innovación. Tecnología de la información. Valor empresarial.

## 1 INTRODUCTION

The growing impact of globalization on the lives of organizations, a necessary phenomenon when obtaining economies of scale, has required and resulted, increasingly, in the standardization of products, services, processes, marketing initiatives and organizational structures. This standardization – observed in companies belonging to different business verticals - aims at achieving not only governance, operational control and financial control aspects, but also management of risks that refer to the brand and to sustainability.

From the mid-twentieth century on, when the change from the industrial economy to a new production and business structure began, oriented towards information as one of the main assets of a new global economy, organizations have been continuously and incrementally investing in IT. The 1990s were marked in history as a period in which the companies participating in this new global scenario carried out unprecedented and massive investments in the development, implementation and maintenance of information systems. Despite this scenario, however, research carried out over recent years has pointed to different conclusions concerning the value of IT investments for organizations (BRYNJOLFSSON, HITT, 2000; KRAEMER, DEDRICK, 2001).

In the IT business solutions and services field, standardization of applications to support business management requires strict control of the versions' roadmap, a fact that can be observed mainly concerning mature and stable solutions. On the other hand, business dynamism, regulatory standards and the speed of technological evolution pose a challenge to strategic decision-making concerning which trends, new requirements and standards in the software industry should be incorporated into a portfolio of solutions.

Providers of IT services dedicated to implementing and supporting business solutions are a part of this universe. When interacting with key users and other stakeholders linked to business processes throughout the lifecycle of solutions, they have the unique opportunity to experience

how solutions are used, complemented and integrated into other IT solutions. In this way, of course, professionals dedicated to managing and carrying out IT projects can potentially render value to the IT industry business by offering solutions aimed at improving products (software, networks, connectors etc.) and services that can address unmet needs and, consequently, generate new sales of products and services.

## 2 RESEARCH PROBLEM, MAIN QUESTION, GOALS AND JUSTIFICATION

Based on these facts, we can observe that, in companies providing IT business solutions, the potential for innovative solutions and services based on suggestions and ideas by teams that provide implementation services and support to customers is one of the requirements to keeping the organization competitive.

According to Drucker (2008), the incorporation of an innovative culture occurs through a systematic approach to innovation, monitoring the sources of innovative opportunities. In this context, in their daily work, teams providing IT services experience unexpected situations, divergent results and new process design needs that are sources of opportunity and can drive the innovative process. In this aspect, the Harvard Business School – HBS (2009) mentions a few sources of additional opportunities, which are also part of the everyday life of teams providing services: ideas arising from interaction with customers, learning resulting from the interaction with top users and the design of new solutions through systematic observation.

On the other hand, the channel for capturing, assessing and selecting these suggestions and ideas may not exist, or not be used comprehensively and effectively, wasting the potential for improving or creating new solutions or services. Other elements that complicate the use of this potential are the often complex and bureaucratic organizational structures and processes.

According to Hansen and Birkinshaw (2007), managers should adopt tailored idea management processes, according to the current performance of each stage of the process, and apply best practices to optimize the value chain of innovation as a whole. Facing this issue, the main problem of this case study is: What elements are key to the innovation management process aimed at encouraging new businesses in the field of services within IT companies?

To answer this question, this paper's main aim is to empirically validate parameters defined in relevant literature that apply to innovation management in IT companies' services. Specific goals can be grouped in the evaluation:

- of the services' innovation value chain of an extremely relevant IT multinational company that is leader in the segment of business management applications;
- of current services' innovation management processes in this company;
- of the perception of the importance of innovation in achieving the company's service revenue and profitability goals.

These goals, part of a thorough analysis of innovation applied to the IT services segment, meet Drucker's claim (2008, p. 208) that "the company that does not innovate inevitably ages and declines". However, although coexisting with innovation involves risks and barriers for companies, this is one of the main ways of gaining a competitive advantage and results from the possibility of obtaining profits above the market average. In this respect, the evolution of IT has influenced as to aspects of competitiveness, as well as in organizations' strategic planning (CRANE, BODIE, 1996; FARBEY, LAND, TARGETT, 1995).

Accordingly, such as what is stated in research published in 2010, 84% of executives interviewed said that innovation is extremely or very important to the growth strategy of their companies (MCKINSEY & COMPANY, 2010). This same research raised the five biggest challenges

for the commercialization of innovations and creation of new businesses: (a) lack of a formal innovation process; (b) alignment of human and financial resources; (c) overcoming internal corporate policy; (d) obtaining alignment within leaderships; and (e) the courage to make final decisions. In order to corroborate these concepts, the following elements are the main reasons for carrying out this research:

- contribution to the formation of a critical mass of discussion referring to the innovation management process applied to the IT management field;
- combination of theoretical concepts and empirical research applied to the context of the research, in order to bring about reports and conclusions on the subject of research, carried out in a multinational company that is a leader in its market.

Thus, this paper aims at contributing to the support of projects for assessing and implementing the IT innovation management process in companies belonging to the Information Technology segment.

### 3 THEORETICAL FRAMEWORK

Concerning the Information Technology (IT) segment, although innovation is one of its business pillars, literature does not harbor a homogeneous tendency as to the analysis of its returns on investment. According to Evans and Wurster (1999, p. 84) "over the last decade the alignment between IT and business has been a disaster for IT departments", which is corroborated by Henderson and Venkatraman (1993, p. 16) when they state that "there is no evidence of significant productivity gains due to the use of IT considering the global aggregate of economy".

This lack of synchronicity between the organization's goals and IT results from a number of things; one of the main ones is that IT, in most

companies, is a provider of services and, as such, is not part of the core of the organization. This IT characteristic can end up delegating it to third parties, the suppliers of IT services, so as to minimize risks, contain costs and ensure informational quality. According to Hammond, Keeney, Raiffa (1998, p. 3), “if alternatives are not clearly established, the right information was not gathered and the costs and benefits were not considered with appropriate precision, business decisions may be based on wrong assumptions”. On the other hand, it appears that business productivity presents no evidence that the use of IT is a competitive difference (BARTHÉLEMY, 2003).

In this scenario, over recent years IT has emerged as one of the most complex strategic elements concerning the implementation and measurement of associated benefits, even when the company’s option is to outsource IT services so as to add value to the business in the shape of innovations within information processes. According to Quinn (1999, p. 9), “in an organization, outsourcing is an action for obtaining labor from outside the company, that is, outsourced labor, and is strongly linked to the idea of subcontracting services”.

Thus, according to Kakabadse and Kakabadse (2002, p. 189):

“lately we have seen outsourcing decisions that are not based solely on aspects such as transaction costs, but involve the development of business strategies in partnership with the provider that can result in business innovations that would be otherwise impossible”.

However, strategic alignment should consider IT principles when designing IT architecture, IT infrastructure etc. According to Weill and Ross (2004) and Broadbent and Kitzi (2005), these principles result directly from the company’s strategy and business needs. Once established, they guide necessary IT project and service initiatives. These characteristics of IT service users drive service providers in this field to

develop mechanisms concerning innovation so as to increase competitiveness, because, as Drucker (2008, p. 67) said, innovation is a “specific tool of entrepreneurs, the means by which they exploit change as an opportunity for a different business or a different service”.

In his book “The Theory of Economic Development”, first published in 1911, Schumpeter (1997) defines innovation in the economic system as a spontaneous and discontinuous change that alters and shifts the existing balance forever. According to him, innovations are new productive combinations, such as new products or the same products with different methods or raw materials.

Regarding the difference between “invention” and “innovation”, Schumpeter (1997, p. 95) explains as follows: “While they are not put into practice, inventions are economically irrelevant. And to make any improvement is an entirely different task from inventing it, and, moreover, a task that requires entirely different kinds of talents”.

Published by the Organization for Economic Cooperation and Development (OECD), the third edition of the “Oslo Manual” (OECD, 2005) defines innovation as “the implementation of a product (good or service) that is new or significantly improved, or a process, or a new marketing method, or a new organizational method in business practices, in the organization of the workplace or in external relations”. The “Oslo Manual” (OECD, 2005, p.57) proposes four types of innovation:

- product innovations: involve the introduction of a good or service this is new or significantly improved as to its characteristics or intended uses;
- process innovations: involve the implementation of a method of production or distribution that is new or significantly improved;
- marketing innovations: involve the implementation of a new marketing method with significant changes in product design or packaging, in product



- placement, in its promotion or pricing;
- organizational innovations: involve the implementation of a new organizational method in the company's business practices, in the organization of the workplace or in external relations.

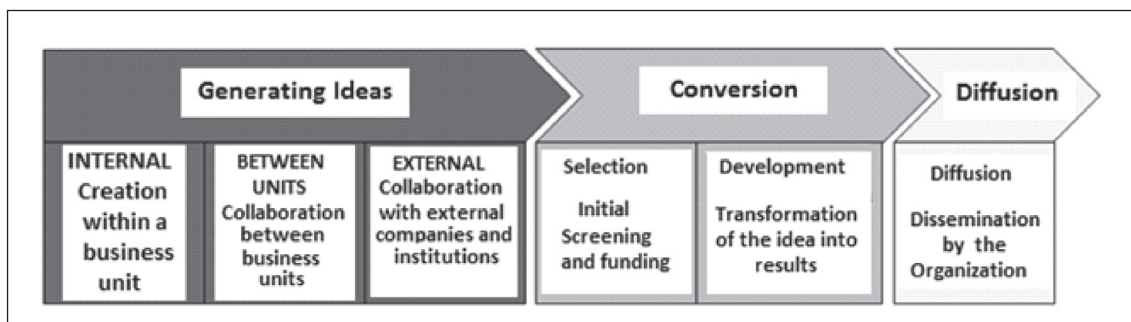
Therefore, we can define innovation as the implementation of new products, services, production methods, processes, raw materials, markets, marketing methods, organization and market structures. Innovations also involve changes that alter the existing balance and bring about opportunities for generating benefits for someone. Regarding the degree of innovation and impact, there are two definition lines: incremental and radical innovation and sustaining and disruptive innovation. The degree of innovation is usually classified as incremental and radical (HBS, 2009).

Incremental innovations normally explore existing technologies, improving something or using existing technology in another application (HBS, 2009). For example: Pentium 4 compared to Pentium 3, or the application of GPS technology

in automobiles. A radical innovation is something new and has a high impact on performance or cost (HBS, 2009). For instance, the technology of transistors (which replaced valves) and jet engines (which replaced piston-driven engines in aviation).

According to Christensen (1997, p.12), the challenge for organizations is to “ensure that disruptive innovations, that make no sense, are taken seriously within the company, without jeopardizing the needs of current customers who bring profits and growth”. Good management, focused on listening to customers, on creating quality products, on growing and on increasing profits, can lead to the failure of organizations when faced with the changes of disruptive technologies.

As early as 1911, Schumpeter (1997, p.65) stated that “innovation is risky, impossible for most producers”. Many authors propose models for managing the innovation process, which, as Schumpeter said, is a risky process. In general, the process phases of the different models are the same regardless of the segment or type of innovation.



**ILLUSTRATION 1** – The innovation value chain

**Source:** Adapted from Hansen and Birkinshaw (2007)

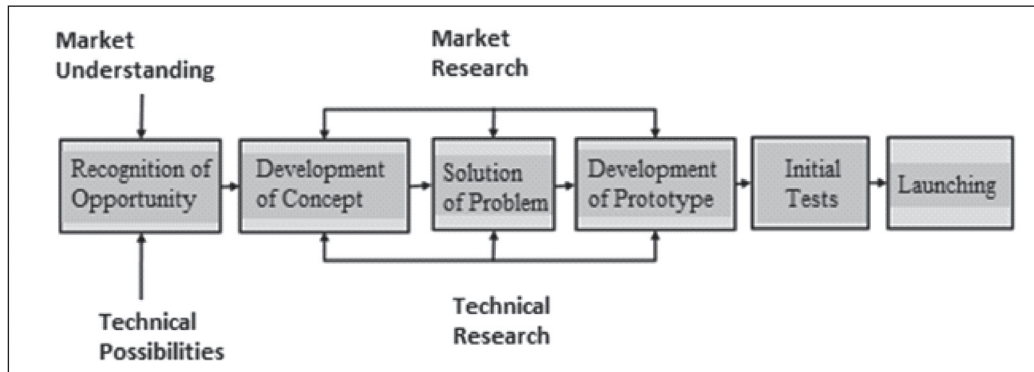
In their article “The Innovation Value Chain”, Hansen and Birkinshaw (2007) describe the three phases of the innovation process’ integrated flux: Generating ideas, Conversion and Diffusion. They recommend that innovation is approached as an integrated chain, allowing for the assessment of strong and weak links, as shown in Illustration 1. According to them, following this assessment, companies should

take up tailored innovation practices so as to improve the performance of the weak links in the innovation value chain. They warn about the risk of carrying out general innovation practices, because, if inappropriate, they may further worsen the performance of the innovation value chain.

Tidd, Bessant and Pavitt (2005) propose an innovation process with the phases of searching, selecting, implementing and learning.

The implementing phase is subdivided into acquisition, implementation, launching and support, and the learning phase receives feedback from the other phases and feeds the process with

reinnovation. HBS (2009), on the other hand, describes the innovation process beginning when an opportunity is recognized, usually associated with a market need, as shown in Illustration 2.



**ILLUSTRATION 2** – The innovation process

**Source:** Adapted from HBS (2009)

Chesbrough (2006) proposes a process of open innovation, with inflows and outflows of knowledge to accelerate internal innovation and expand markets for external innovation use (licensing, for example). Despite the challenges of managing intellectual property in this model, according to Chesbrough (2006) there are reasons for using it: 1) good ideas are widely distributed. Nobody has monopolized the use of knowledge; 2) innovation occurs within business networks rather than in a single company; 3) not all the intelligent people in the world work for us. Thus, there are several sources for generating ideas, and may be spontaneous or stimulated by various techniques. Terra (2007) gives examples of some of these techniques: association of ideas, the question technique, the adding adjectives technique, the five senses technique, scamper, brainstorming, mind map (mental maps), list of attributes and morphological analysis.

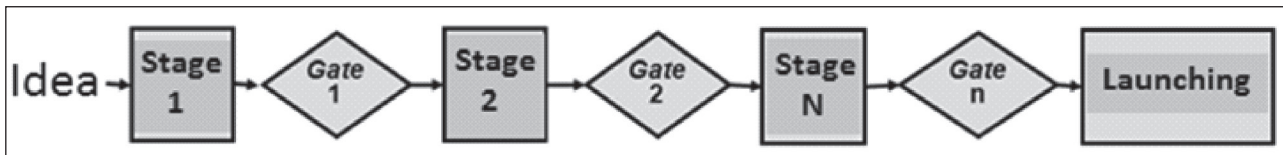
Hansen and Birkinshaw (2007) structure the phase of generating ideas in three activities: internal generating, generating between units and external generating. According to the authors, big ideas tend to emerge when fragments of ideas are grouped. Accordingly, between unit and external idea generating activities empower and enrich

the ideas generated internally, in departments or business units.

Christensen (1997) recommends the constant assessment of new technologies' performance evolution curves and the performance evolution required by the market to try to identify the moment when new technologies can be applied to the market. According to Drucker (2008), one must systematically analyze and study the sources of innovation. He also recommends field work, with customers and users, to assess their expectations, values and needs.

Also according to Drucker (2008, p.57), "to be effective, an innovation must be simple and concentrated. It should do only one thing, since, otherwise, it becomes confusing". He also recommends that innovations begin in a small way: "It's better that innovations start small, initially requiring little money, few people, and only a small and limited market".

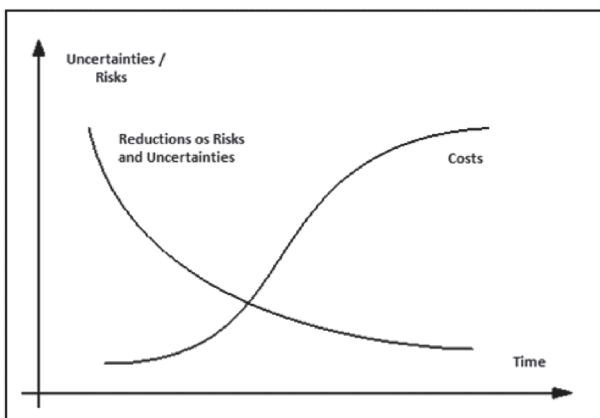
The development phase structures the activities that transform ideas or new concepts into products or services, which are then brought to market by the diffusion phase. HBS (2009) describes the Stage-Gates system, developed by Robert Cooper, which can be used as a methodology in the development process, as shown in Illustration 3.



**ILLUSTRATION 3** – *Stage-Gates System*

**Source:** Adapted from HBS (2009)

This system structures the development phase in an alternating series of steps or stages of development and assessment gates. In these stages, development activities are carried out, such as preliminary analysis, feasibility study, development of the product or service, prototyping, testing and launching. The purpose of the gates is to interrupt ideas that do not go through certain evaluation criteria. An innovation management committee decides whether to approve, send back, interrupt or cancel a project.

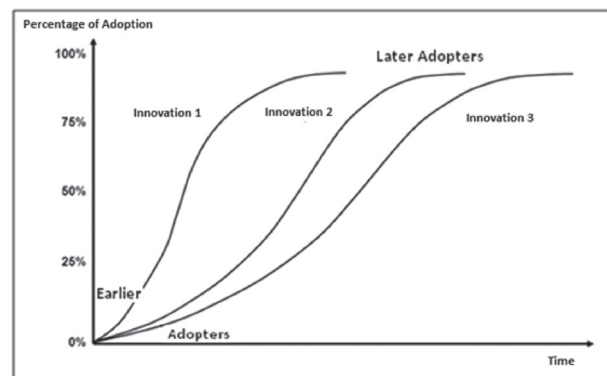


**GRAPH 1** – Risk and uncertainty reduction through the use of the Stage-Gates project management methodology

**Source:** Instituto Uniemp (BRASKEM, 2007)

In Graph 1 we can see the reduction of risks and uncertainties over time. Resource allocation also depends on the stage of the project; major investments are only carried out after a certain stage. When initial barriers are overcome and innovation is accepted, consumers start to embrace it, and, with little or no competition, pricing is established based on the value the product or service provides to the client, without taking costs very much into account.

According to Rogers (2003, p.86), “diffusion is a process in which an innovation is communicated through certain channels over time to members of a social system”. According to his research, the diffusion process of an innovation follows the trajectory of an S curve, as explained in Graph 2. In the initial phase of the process, innovation is adopted by innovators (2.5 %) and early adopters (13.5%). Next, the speed of adoption increases and the early majority (34%) and late majority (34%) categories adopt the innovation. Finally, the laggards (16%) adopt the innovation.



**GRAPH 2** – Diffusion process

**Source:** Adapted from Rogers (2003)

For Rogers (2003), the rate of adoption of an innovation is defined by five characteristics: 1) Relative advantage, 2) Compatibility, 3) Complexity, 4) Trialability (possibility of trying out), and 5) Observability. For example: even if an innovation offers advantages to people (feature 1), it may be rejected or have a low adoption rate if it is incompatible with the values of those people (feature 2), or is too complex for understanding the innovation or the relative advantages (feature 3).

Transforming ideas into innovations, according to Schumpeter (1997), is hard and



only accessible to people and organizations with certain leadership qualities, necessary for removing barriers. Once these obstacles are removed, innovation gradually becomes habitual and its acceptance is a matter of free choice. Thus, in addition to a defined and implemented innovation process, organizations need to have the pillars that support this process. In this scenario, according to Liao, Liao and Hutchinson (2010, p. 124), "... global competition requires from the development process of new products and services certain means of internal action in its technical capacities and external resources coming from innovative suppliers" – and in that same sense innovation plays an important role facing companies' need to drive all their activity towards business, focused on knowledge, intense information flow and trained staff participating in decisions, invading the entire production process, including distribution, transportation, communication, trade and finance (AUBERT, RIVARD, PATRY, 2004).

As observed by Schumpeter (1997), although the number of possible innovations is virtually unlimited and the possibility of profit and "potential demand" have no set limit, these possibilities are powerless and unreal if not supported by the personality of someone who believes that innovation will bring greater returns than other investment alternatives, leading the way to innovation implementation.

In this respect, Drucker (2008) emphasizes the need for making the organizational structure, compensation and incentives adequate, to allow people to be entrepreneurial. Amongst his recommendations, we emphasize the following:

- to separate new and entrepreneurial units from old and current ones;
- to define a special position responsible for innovation at the higher level of the organization. Apart from being responsible for innovation, these people will also be in charge of policies, practices and methodologies for assessing innovation;

- remuneration and incentives of the key people of new and innovative units should be distinct and separate. Indexes of mature units such as return on assets or on investment are a barrier to innovation. One can, for example, relieve expenses indexes by developing new projects.

According to HBS (2009), communication and knowledge sharing are catalysts for idea generating and development of individuals and teams. Small pieces of knowledge that alone mean nothing can be put together to create different insights. Many creative ideas are formed at the intersection of different lines of thought or technology. Regarding communication, HBS (2009, p.35) recommends that managers:

- encourage the free flow of information through e-mails, communities of interest, joint work sessions, transference between fields or unit and events;
- strengthen communication networks that are invisible, but extremely important, connecting people and acting as conduits of information;
- evaluate the following aspects: (a) What physical or location barriers hinder frequent and effective communication amongst people who should have regular contact with each other?; (b) Is the R&D team isolated from the sales, marketing and customers teams? (c) Who is communicating with whom?

Regardless of company size, the infrastructure to support innovation is crucial to enabling research and development. According to HBS (2009), certain companies support R&D on two levels: on the corporate level and on the business unit level. The R&D centers at the corporate level typically support radical innovation projects and basic research. At the business units level, the focus is on incremental innovations that bring short-term benefits. Drucker (2008, p. 54)

outlines four basic guidelines to enable innovation in organizations:

- to abandon the “old”: Making innovation attractive to managers through a systematic policy of abandoning products, technologies, markets, plants, distribution channels and procedures that are worn out, obsolete or unproductive. In an analogy with living organisms, who need to eliminate their waste products not to poison themselves, this policy acts as an organizational hygiene, necessary to freeing organization resources and focus on behalf of innovation;
- a short life cycle: to accept the fact that current products, services, markets, distribution channels, processes and technology have a short and limited health and life expectancy;
- a gap to achieving goals: to systematically evaluate the detailed position of products and services, markets and channels in the product’s life cycle, to estimate the future sales curve (growth, stabilization and obsolescence) of what already exists. Comparing with the company’s goals, one can evaluate the sales or profitability gap that will have to be filled with new products and services, markets and channels;
- an entrepreneurial plan: once assessed the gap to achieving goals, we must formulate a plan with innovation goals and deadlines. The plan will ensure the allocation of financial resources in the budget and establish the resource requirements for innovation projects.

#### 4 RESEARCH METHODOLOGY

The empirical research carried out in this paper can be classified as inductive, exploratory

and quantitative; one of its steps is a survey. The qualitative aspect of this research occurred through document survey and analysis, in which we analyzed the characteristics of the company company’s business processes.

##### 4.1 Procedures for data collecting

The company that was the object of this research is a major supplier of business management applications, and is present in Brazil and in over 180 countries. In Brazil, the company’s operation includes over one thousand direct and indirect employees, serving customers from different segments of the Brazilian economy.

The data collected in this study was of two types: a) primary – collected through a survey, which used a structured questionnaire; and b) secondary – obtained through literature and document research. The literature search was the basis of the paper, supporting the definition of the scope of documentary research, preparation of the questionnaire used in the survey, and, finally the definition of an innovation management process proposed for the IT services filed in the researched company.

For the research, we considered innovations referring to the implementation of a new product or service (or that were significantly improved). The documentary research evaluated the company’s existing innovation management processes, that were or not used by the services field. The survey, carried out with a questionnaire, is detailed below.

##### 4.2 Instruments for collecting data

For the survey, a questionnaire was used to collect primary data, using the Likert rating scale. According to Cooper and Schindler (2001, p. 201):

The Likert scale is the most frequently used variation of the additive rating scale. Additive scales are made up of statements that express positive or negative attitudes towards the object of interest. The respondent is asked to

agree or disagree with each statement. The Likert scale helps us compare the score of a person with the distribution of scores in a well-defined sample group. This measurement scale is useful for a manager when the organization plans to carry out an experiment or a program for change and improvement. The researcher may measure attitudes before and after the experiment or change and judge whether the organization's efforts have had the desired effect.

The questionnaire was structured in three blocks: 1) current innovation management processes in the company, 2) importance of innovation for achieving company revenue goals and profitability, and 3) innovation value chain. Block 1 was based mainly on document research, in which the existing innovation management processes in the company were included in the questionnaire (respondents evaluated whether they knew them or not). Also included were questions about the perception of people regarding the level of innovation in the company. Finally, a question was included to assess the interest of people in submitting ideas to an innovation management process.

Block 2, on the other hand, presented respondents with questions that assessed whether innovation is important to achieving company revenue and profitability goals, based on a the study's theoretical review. Block 3, in turn, was inspired and adapted from the article "The Innovation Value Chain" (HANSEN, BIRKINSHAW, 2007). This questionnaire, made up of three blocks, was chosen based on its integrated approach to innovation management, in which no process is considered in isolation and the product of innovation results from the entire value chain.

We carried out a pre-test of the questionnaire with two people from the selected sample. The pre-test identified the need to simplify the questionnaire to facilitate its understanding and avoid misinterpretation. The number of assumptions to be validated was reduced from 30 to 23, the text of certain statements was reviewed, as well as the page with

definitions and instructions, and we included the "Not applicable/Don't know" and "Comments (optional)" columns. The goal of the survey was to assess:

- current innovation management processes in the company's field of services;
- awareness of the importance of innovation to achieve the company's service field's revenue and profitability goals;
- the innovation value chain in the company's field of services, based on the questionnaire from the article by Hansen & Birkinshaw (2007).

#### 4.3 Collecting and verifying data

The documentary research to evaluate the company's innovation management processes was carried out in the institution's internal portal, monitored by an employee. We evaluated all available and documented innovation management processes in order to make up the database of the research.

The survey questionnaire was oriented towards 42 people from the services field in a large-scale company which harbored a total 300 people. After two weeks, 30 questionnaires had been answered, 71% of the total distributed and 10% of the total population. The studied company is a multinational from the IT segment, of foreign origin, that operates globally. Its main focus is on developing business solutions for companies.

The role of subsidiaries around the world is mainly selling and implementing solutions. Thus, innovation (in terms of new products) is not part of the scope of subsidiaries' core activities. The field of consulting services, in turn, is also part of a global structure, with a portfolio of standardized services and methodologies. The portfolio and methodologies are developed by global teams and used by all the subsidiaries. Table 1 below characterizes the positions of the 30 respondents:

**TABLE 1** – Categorization of respondents by position.

Position	Amount of respondents
Manager (Field Director or Manager)	8
Account Executive (Services salesperson)	4
Project Manager	6
Solutions Consultant or Architect	9
Trainee	3
Total	30

**Source:** The authors.

#### 4.4 Data analysis procedures

Analysis of questionnaire data is divided into three blocks, aligned with the goals of the survey. An analysis of the quality of the sample data was carried out, and questionnaires considered in the survey were validated. Next, analysis of questionnaires considered valid was carried out, tabulating data.

## 5 RESEARCH RESULTS

Below we present the tables with the numerical results obtained in the study, followed by qualitative analyzes associated with related literature.

### 5.1 Current innovation management processes

In Table 2, we verify the statements of this block, as well as the distribution of valid answers.

**TABLE 2** – Statements from the first block

Code	Statement	Average	Valid answers	1	2	3	4	5
1.1	The company's services field in Brazil harbors an innovation management process that I can participate in.	3,0	100%	5	7	7	6	5
1.2	The company is innovative.	4,3	100%	-	1	4	9	16
1.3	The company's services field in Brazil is innovative.	3,2	97%	1	6	8	13	1
1.4	I know the process called "Company Idea Management".	2,0	100%	8	19	1	-	2
1.5	I know the process called "Development opportunity".	1,8	100%	8	20	1	1	-
1.6	I know the process called "Development opportunity".	2,4	100%	7	14	2	4	3
1.7	I have already submitted ideas to one of the processes mentioned above.	1,9	100%	10	16	1	3	-
1.8	I would like to submit ideas to an innovation management process.	3,7	87%	-	5	1	17	3

**Source:** The authors.

By analyzing Table 2, we can make the following main direct observations as to the answers to the first block of questions:

1.1 - There is no consensus about the existence of an innovation management process in the company's field of services in Brazil.

1.2 – Respondents think the company is innovative.

1.3 to 1.6 - There is no consensus about the degree of innovation in the company's field of services in Brazil.

1.7 - Global innovation management processes are unknown by most people.

1.8 - People would like to submit ideas to innovation management processes.

### 5.2 The importance of innovation in achieving revenue and profitability goals

In Table 3 we can see this block's statements, as well as the distribution of answers.

**TABLE 3** – Statements from the second block

Code	Statement	Average	Valid answers	1	2	3	4	5
2.1	(Global) Company innovation is important to achieving revenue and profitability goals in the company's services field.	4,6	97%	-	-	-	12	17
2.2	Innovation in the company's services field in Brazil is important to achieving revenue and profitability goals in the company's services field.	4,6	97%	-	-	-	13	16

**Source:** The authors.

By analyzing Table 3, we can make the following main direct observations as to the answers to the second block of questions:

2.1 and 2.2 - Innovation, both in the company and in the company's field of services in Brazil, is important in achieving revenue and profitability goals.

## 5.2 Innovation value chain

In Table 4 we can see this block's statements, as well as the distribution of answers. One observation is that the third block's statements are negative.

**TABLE 4** - Statements from the third block

Code	Statement	Average	Valid answers	1	2	3	4	5
3.1	The culture of the company's field of services in Brazil makes presenting new ideas hard.	2,6	87%	3	11	7	4	1
3.2	People in the company's field of services in Brazil present few good ideas by their own initiative.	3,0	83%	1	7	9	7	1
3.3	Innovation projects from the company's field of services in Brazil little involve people from different lines of business or subsidiaries.	3,4	70%	-	4	6	9	2
3.4	The company's field of services in Brazil does not usually collaborate with innovation projects in other lines of business or subsidiaries.	3,2	63%	-	5	6	7	1
3.5	Few good ideas for new products or business come from outside the company.	3,2	60%	1	2	9	5	1
3.6	People in the company's field of services in Brazil often have an "not invented here" attitude.	2,8	83%	1	10	10	2	2
3.7	We have strict rules for investments in new products and services - it's very hard to approve and fund projects for new products and services.	3,3	80%	1	5	7	9	2
3.8	We have an aversion to the risk of investing in new ideas.	3,2	87%	-	8	7	10	1
3.9	Projects for developing new products and services aren't usually completed within the deadline.	3,4	93%	-	4	12	9	3
3.10	Managers find it hard to develop new businesses and initiatives.	3,5	93%	-	6	4	16	2
3.11	We are slow to launch new products and services.	3,3	90%	1	8	5	7	6
3.12	Competitors of the company's field of services quickly copy our new products and services.	3,6	90%	-	3	9	11	4
3.13	We do not penetrate in all possible channels, customer groups and regions with new products and services.	3,7	87%	1	2	4	16	3

**Source:** The authors.



By analyzing Table 4, we can make the following main direct observations as to the answers to the second block of questions:

3.1 – Culture is not a barrier to innovation (only 17% of respondents answered that culture hinders innovation).

3.2 – There is no consensus about people's initiative to present good ideas.

3.3 e 3.4 – There are opportunities for greater involvement of people from different LoBs or subsidiaries and for searching for ideas outside the company.

3.5 e 3.6 – There are opportunities for searching for ideas outside the company. There isn't a "not invented here" attitude and ideas from outside will be accepted.

3.7 – It's hard to approve and finance projects.

3.8 – There is an aversion to the risk of investing in new ideas.

3.9 and 3.10 – There are difficulties in the process of implementing new products and services.

3.11 and 3.12 – There is a slowness in launching new products and services and a threat by competitors who quickly copy new products and services.

3.13 – There are opportunities for penetrating in more channels, customer groups and regions with new products and services.

We can observe, therefore, that the results of research concerning block 1 indicate no correlation between the perception of the existence of innovation and the management structures that support it. This characteristic makes it clear that innovation, as the company's strategic pillar, is not spread amongst professionals in the scope of the management and dissemination of corporate ideas and culture. This corroborates the vision of Hansen and Birkinshaw (2007), who point out that, as well as the challenge of innovation diffusion amongst channels and customers, there are often barriers within organizations themselves.

In global companies, for example, the delay in launching new products or services in a particular geography can make room for competitors to anticipate and launch similar

products beforehand, even without having created any innovation. For companies facing problems as to the diffusion process, they recommend the appointment of "idea evangelists", who use their personal network of relationships to enhance the awareness of people about the new idea and persuade them to adopt the new product or business concept.

Regarding block 2, results analysis shows that, even when the innovation is not embedded in the company's management processes, especially in the services provider field, the perception of its employees is crystallized around the idea that the innovation of the company and its products (not necessarily of its services) accounts for a large part of the company's strategic positioning in the market. Thus, the break between the offer of innovative products and the lack of services offered to customers, based on innovative processes, requires a new conception of the company's business models. In this scenario, according to Liao, Liao and Hutchinson (2010, p. 124) "... global competition requires that the development process of new products and services include means of internal action in their technical capacities and external resources coming from innovative suppliers"; in this same sense, innovation plays an important role facing companies' need to focus all their activity on business, centered on knowledge, on an intense flow of information and on trained staff participating in decisions, in the entire production process, including distribution, transportation, communication, trade and finance (AUBERT, RIVARD, PATRY, 2004).

The analysis of answers for block 3, as the consolidating block of the innovation value chain (which includes the management of innovation processes and innovation based on revenue and profitability), reveals that there is a clear difference between values and attitudes within the company and in particular in the field providing IT services. There are internal barriers in the process of innovative creation and in the presence of an aversion to the risks of investing in innovative ideas. This scenario, diagnosed in an IT company that has great representation and penetration in

the world IT market, shows that the company lacks basic measures such as those suggested by Drucker (2008) in order to promote innovation in organizations:

- Focus of management vision on opportunities: as well as assessing the problems and fields that performed below what was planned, one should also focus on opportunities and on field that performed above the planned. The suggestion is to hold two meetings on the results of operations, one focused on problems and another on opportunities.
- Sharing experiences and successful projects: hold events for exchanging experiences, in which executives report how they discovered an opportunity, how they turned it into a successful product or service, and what innovative plans they have in the pipeline.
- Meetings between senior executives and junior staff: in order to instill entrepreneurial vision throughout the company, hold meetings with senior executives, in which the company's junior team can ask questions, clear doubts, present its vision on opportunities and threats, and propose ideas. For each suggested ideas, work proposals should be established in the form of a business case, promoting the entrepreneurial vision and increasing receptivity to innovation.

## 6 CONCLUSIONS

When answering the main research question (What elements are key to the innovation management process aimed at encouraging new businesses in the field of services within IT companies?), we can state that, despite the complexity and nonlinearity of results obtained by research, it does imply that the structuring of an innovation management process in the

field of services of an IT company follows the classic aspects found in literature, that is, existing theoretical frameworks are adherent to the fields of service provision, including the IT field.

According to Drucker (2008) and HBS (2009), the relevant aspects to be pursued by companies in the scope of innovation management should be adopted according to the representativeness of the innovation in the company's strategy and operation, and include measures such as establishing a special position at a high level of the organization that is in charge of innovation in services; establishing indicators and evaluation metrics that are appropriate and not a barrier to innovation; catalyzing the generation of ideas and development of individuals and teams with a focus on innovative culture; encouraging the free flow of information through e-mails, communities of interest, joint work sessions, transference between fields or units and events; and strengthening communication networks that are invisible, but extremely important, and that connect people and act as information conduits.

With respect to the general goal of the research, which was to empirically validate parameters defined in relevant literature that apply to innovation management in IT companies' services, we can conclude that, even in large-scale companies with great representation in the market – and that already have pre-existing processes for dealing the subject “innovation” – there may be room for the creation of an applied innovation management process, which supports the capturing of ideas, distributes innovation opportunities to already existing global processes, and, finally, manages local innovations up to the diffusion phase. These aspects were identified by confronting the theoretical assumptions found in literature and the results obtained by applying the research instrument.

Regarding the specific purpose of assessing the innovation value chain in the field of services of a multinational IT leader in the segment of applications for business management, of great relevance in the market, we conclude that there is a disparity between the practice of innovative management in the field of services, which tends

to be null, and the innovative appeal of high-tech products aimed at the information technology segment.

As to the goal of evaluating current innovation management processes in a company's field of services, research showed that, even when there are innovation management processes already implemented, they may not cover all company fields and levels. In the case of the company that is the subject of this research, innovations concerning local services were not covered by existing business processes.

Regarding the specific purpose of evaluating the perceived importance of innovation in achieving revenue and profitability goals and evaluating the innovation value chain in a company's field of services, we verified that, in the services field of the institution studied, despite innovation being important for achieving of goals for all respondents and the company culture not being a barrier to innovation, the innovation value chain presents deficiencies in almost all its links. Therefore, we found the opportunity of implementing a local innovation management process, integrated with pre-existing business processes, which improves the flow of the innovation value chain.

We conclude, according to HBS (2007), that, when dealing with the innovation process, the IT services field, made up of its employees, led by field managers, must incorporate the innovation process in its speech, so that related issues are discussed in a transparent manner and in compliance with the same vision of the business and of its importance to customers. They should explore the fact that customers and employees know little about the innovative possibilities of the service provider company and that the improvement of this process will occur when there is a clear effort to generate customer value through innovative solutions.

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