

# RELEVANT ASPECTS IN DECISION MANAGEMENT

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## SUMMARY

The intention of this work is to provide a theoretical basis for the decision management process. It is to dispel the mistaken impression that this process can be done in any way based only on empirical experiences. It is to understand that objective and subjective factors have their influence so that decisions can be more assertive and that not taking them into consideration will lead to losses felt immediately with consistent effects. It is to understand that disruptive changes have led many companies to leave their comfort zone by developing business management models capable of meeting the social desires of a more dynamic and changing market. In this sense, investment in technology is a stimulated behavior, given the need to use tools capable of reducing the time for decision-making by condensing data and transforming it into information shared with the various sectors of the organization. The implementation of *Business Intelligence* and ERP as relevant factors for delivering results, which in isolation does not disqualify the importance of human capital in the organization. **Keywords:** Decision. Disruption. *Business intelligence*. ERP

## ABSTRACT

The intention of the present work is to bring theoretical support to the decision management process. It is to leave the mistaken impressions that this process can be done in any way based only on empirical experiences. It is to understand that objective and subjective factors have their influence so that decisions can be more assertive and that not taking them into account will cause losses felt immediately with consistent effects. It is to understand that disruptive changes have led many companies to leave the comfort zone when developing business management models capable of meeting the social aspirations of a more dynamic and changing market. In this sense, investment in technology is a stimulated behavior, in view of the need to use tools capable of reducing the time for decision making by condensing data and transforming it into information shared with the different sectors of the organization. The implementation of Business Intelligence and ERP as relevant factors for delivering results, which in isolation, does not disqualify the importance of human capital in the organization. **Keywords:** Decision. Disruption. Business intelligence. ERP

## 1 INTRODUCTION

Quality decision-making, in a simplistic view, can be limited to hasty reflections on a given subject. At the opposite extreme, it can materialize a long rational process, sometimes based on positive and/or negative experiences or on data.

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v. 7 special ed. (2021): RCMOS - Multidisciplinary Scientific Journal of Knowledge. ISSN: 2675-9128

insufficient and/or mistaken. The intensity of quantitative and qualitative support to corroborate the decisions taken was noted. Objective and easily perceived factors were and continue to be used for this purpose. Questions such as the impacts on the organization, the costs involved, and the time invested are fundamental for collecting relevant data.

There has been an increase, initially timid but now of great institutional value, in the human factor, that is, the validation of the people involved in the process, whether as protagonists of the decision or as beneficiaries of the same in direct or reflexive effect. In addition to this, there is the contribution of technology, seen by many as an ally and by others as an enemy, which generates organizational instability and emotional fragility of human capital. These elements, when added together, bring a weight of responsibility to managers.

In this sense, the present *paper* It was prepared through bibliographic research through "investigation into theoretical material on the subject of interest" (Alyrio, 2009, p. 82), composed of scientific and academic publications, including theses and dissertations, in addition to books relevant to the topic, with the aforementioned theoretical guidelines being the basis for understanding the relevant aspects in decision management.

The qualitative structure used in the development of the reasoning is composed of four topics, with theoretical argumentative reflections on the theme. The first topic refers to the development of general lines on decision-making management. Next, there is the insertion of disruption in the development of the path to decisions. Next, we talk about *Business Intelligence* to finish with enterprise resource planning (ERP), both aimed at the decision-making process.

## **2 DEVELOPMENT**

### 2.1 THE RELEVANCE OF THE DECISION

The personal, professional and/or organizational challenges are to build a logical and congruent line of reasoning to facilitate decision-making. Empirically, we can see the avalanche of hasty and eminently emotional decisions, with insufficient data to analyze alternatives, the result of which could only be significant regrets. The stress factor combined with the abbreviation of time enhances the state of physical and mental fatigue characterized by anxiety in managing the information that leads to the decision. Tonetto, Rohenkohl and Stein (2008, p. 121) state that "time pressure in decision-making can have significant impacts on people's preferences.

Whether due to changes in the subject's emotional state or in cognitive processing strategies". Corrêa (2011) also warns of the interference of subjective factors such as perception, focused observation, emotion and mental record as relevant structuring factors for appropriate positions.

Partridge *et. al*(2012) highlights the importance of rationality in this decision-making process, especially in determining viable options that generate value for the final result. Factors such as checking available resources, combined with the quality of information, contribute to perceptions being taken more appropriately, with a certain margin of safety, without so much emotional influence.

As there are limits to the act of analyzing information, individuals are satisfied with the amount that their minds are capable of processing, thus, the decision is not a rational process of considering all possible alternatives, but of simplifying reality in order to adjust it to the human mind.

Added to this is the fact that, in practice, information appears fragmented in the midst of a series of management tasks, problems arise unstructured and information systems are often limited to past data (Pacheco Junior and Gomes, 2016, p. 2487-2488).

The time and energy spent on mistakes are surprising: there are no objective bases to help in this process or they are still considered unknown. Would there be a formula to expand the perception of events to see the reverberation of an action or omission and the results measured with each behavior?

The most valuable currency of the moment is time. Maximizing it in the face of daily commitments and the constant change in social dynamics requires well-thought-out strategies and more assertive executions channeled to decisions with cognitive security. And from an organizational perspective, this proves to be of utmost importance.

Providing timely information to managers is essential for improving the quality of decisions. If there is accumulated knowledge from past research, studies and assessments, the appropriate procedure is to appropriate this knowledge and use it in the decision-making process. If this is not the case, it is necessary to structure an assessment process that is as consistent as possible within the time and resources available (Tanaka and Tamaki, 2012, p. 823-824).

Information is linked to its intended purpose. In conceptual terms, information is defined as the consequence of data interpretation (Laudon and Laudon, 1996) with a view to assigning value (Masuda, 1982) for the construction of meaning (Abib, 2010) capable of supporting the decision-making process. For Lousada and Valetim (2011), deciding involves establishing models capable of facilitating the assertive stimulus of managerial decision-making, based on information collected through understanding the organizational structure and the

existing relational complex. Decisions without informational support are reckless and do not provide the appropriate options for measuring possible results.

Authors Tanaka and Tamaki (2012) link the value of responsibility inherent to the manager's formal skills to the decision when combining information gathering and evaluative resources with their personal experiences, such as technical and social milestones, with a view to forming a panorama capable of mapping the problem, by amplifying their perception in the consolidation of their conviction.

To Perdigão *et. al* (2012), the certain and uncertain factors count. The first are controllable. The manager can control the variables and have more precision regarding the respective result. The second are external, volatile and difficult to predict, in addition to being subject to sabotaging psychological interferences such as, according to Hammond, Keeney and Raiffa (2004), anchor traps, exaggerated confidence, invested cost, among others.

Due to the possibility of errors in the decision-making process, through the traps proposed by Hammond, Keeney and Raiffa (2004), it is suggested that due attention be paid to a series of eight guidelines to identify and avoid the eight most serious and common errors in decision-making: working with the wrong problem; failing to identify your main objectives; not being able to create a margin of good and creative alternatives; superficially examining important consequences of your alternatives; thinking inadequately about negotiations; ignoring uncertainty; not assessing your ability to withstand risk; and not planning in advance when making decisions linked in time (Perdigão *et. al*, 2012, p. 3).

It is knowing how to manage the potential of information with a focus on the best results, which increases the relevance of an objective assessment. The warning by Tanaka and Tamaki (2012, p. 823) regarding some effects of this assessment is timely "even if this requires simplifying processes, limiting the depth of the study and relativizing the precision and scope of the results, preserving what is essential: the contribution to decision-making and its implementation".

## 2.2 DISRUPTION IN DECISION MAKING

Data converted into information when aiming to extract strategies for aligning interests, the results of which reverberate in productivity, profitability, performance and the consolidation of specific qualities in a market permeated by a competitive universe. These considerations are objective and easy to perceive.

Inevitably, social dynamics and volatile social desires make decision-making steps vulnerable and, often, of immediate applicability with short-term effects. These are empirical and subjective influences that reinforce the stereotype of satisfaction with the feeling of

autonomy and control of the process to achieve previously established goals. Such qualitative contributions have their part to play in order to have a more lasting margin of safety in the decisions to be implemented.

We can only attribute effective autonomy to an agent who is fully capable of making decisions through deliberative processes aimed at goals. On the other hand, a subject is only capable of making decisions through deliberations aimed at goals if he or she has satisfactory awareness and control over at least a large part of the mechanisms that constitute the processes of deliberation and intention. It seems, therefore, that deliberation and intention are presuppositions of decision-making in an autonomous subject. In this sense, it is natural that the meaning and reality of autonomy are not significantly immune to the demonstration that decision-making processes can be influenced by implicit processes of which we are not aware: deliberations can only be sustained by the same conscious processes from which (in theory) we define goals (Almada, 2012, p. 106).

Therefore, it is essential for professionals, managers and society to be able to experience moments of foundation, destruction and reconstruction of ideas, positions and decisions. Experience brings with it valuable lessons for building a cognitive base. Being open to changes, whether predictable or not, resonates in the instigation of ways of achieving purpose, whether personal or professional.

In this sense, there is no way to refute the factor of innovation and the use of technology as an ally, which has been mentioned for some time and which has proven to be a highlight promoted by the market in the present day, which can even, according to Christensen (1997), place all organizations on the same level of competitiveness through disruption, which changes social configurations and their lifestyle (Markides, 2006).

Innovation is not just a reflection of the impulses of capitalism (Schumpeter, 1942), but a change in the management method by focusing on the aspirations of its consumer (Drucker, 1986), from the moment in which its mission and purpose are clear, which will solidify the conceptual showcase of the business (Hamel, 2000).

Thus, disruption arrives on the market as a promise of innovation and transformation, receiving prominence, visibility and enabling the origin of new markets, with a view to inspiring contemporary business models and thus aiming to keep up with the rapid and frequent changes that occur in the highly competitive market in search of satisfying the needs of demanding and well-informed customers (Andrade and Mehlecke, 2020, p. 97).

For Bower and Christensen (1995), technological disruption would represent a break in paradigms in the structuring of strategies, within the management model, so that products and/or services have an innovative appearance to the point of conquering market segments that have not yet been reached or with timid visibility.

The theory of disruptive technologies sheds light on the process by which companies aiming for lower profit margins offer cheaper products and services,

simple and efficient, making them accessible (*low-cost solutions*). The disruptive strategy means that products and services that were previously only available to consumers in the highest market segments now include different groups and new consumers, displacing the *big players* market (Matos and Ipiranga, 2018, p. 290).

In practical terms, Matos and Ipiranga (2018, p. 288) state that “studies aimed at identifying disruptive technologies, as well as assessing their disruptive potential, are usually carried out based on the collection and analysis of statistical data and market trends, requiring complex economic analyses”.

### 2.3 BUSINESS INTELLIGENCE DECISION MAKING

One reality that cannot be ignored is the relevance of data processing. Collecting data is a simple process. The challenge is to employ tools and resources capable of understanding it to the point of transforming it into useful information for each organizational department, whether at a strategic, tactical or operational level, with results directed towards actions. In Singh's view (2001), it is how to make information efficient through strategic management, capable of helping, according to Goldschmidt and Passos (2005, p.1) “man, automatically and intelligently, in the task of analyzing, interpreting and relating this data so that action strategies can be developed and selected in each application context”.

There is talk, then, of *Business Intelligence*, a decision-oriented performance monitoring tool, whose purposes, according to Turban (2009, p. 32) are to “allow interactive access to data (sometimes in real time), provide manipulation of this data and provide managers and business analysts with the ability to perform appropriate analysis”.

In the same sense, Primak (2008, p.5) defines it “as the intelligent process of collecting, organizing, analyzing, sharing and monitoring data contained in *Dara Warehouse and/or Data Mart*, generating information to support decision-making in the business environment”.

It then represents an information management system, the beginning of which was marked by a less dynamic perspective due to the restriction of means available at the time, such as the form used by ancient peoples “who, in their own way, already used *Business Intelligence*, crossing information such as, for example, the behavior of the tides, position of the stars, rainy and dry periods, all in order to facilitate decision-making” (ANTONELLI, 2009, p. 80).

With the evolution of Information Technology, the concept of executive information systems (from English, *Executive Information*

*Systems – EIS*), elevating the support of automated systems from the operational level to the tactical and strategic levels. This concept introduced multidimensional dynamic reporting systems, forecasts and predictions, trend analysis, possibilities for greater detail, access to *status* and critical success factors (LIMA; LIMA, 2011, p. 113).

As for the employment of *Business Intelligence*, systemic benefits are felt, as, for Antonelli (2009, p. 80) “it can provide gains not only to the managers of organizations, but also to certain departments that need to rely on concrete information to make more accurate decisions”. Evidently, the *Business Intelligence* has a close relationship with the information apparatus and its stages which, in the words of Ó Brien (2001, p.32), “uses the resources of people, hardware, software, data and networks to perform input, processing, output, storage and control activities that convert data resources into information products” with a view to maximizing the effects and performance of each sector of the organization.

BI involves Competitive Intelligence or *Competitive Intelligence*(CI), Knowledge Management or *Knowledge Management System*(KMS), *Internet Business Intelligence*(IBI), market research and analysis, etc., capable of promoting the correct structuring of information in retrospective and historical deposits, allowing its manipulation by analytical and inferential tools in order to define competitiveness strategies in the company's business (Ciupak, Boscaroli and Catarino, 2013, p. 52).

Turban (2009) establishes the components of the *Business Intelligence*. The first is the *Dare Warehouse*(DW), “information repository, organized by subject rather than by applications, so as to contain only the information necessary for processing decision support systems” (Ciupak, Boscaroli and Catarino, 2013, p. 52-53). The second is “Business Analysis or *Business Analytics*(BA) which is the act of allowing decision analysis through access to all relevant data and information” (Ciupak, Boscaroli and Catarino, 2013, p. 54). *Business Performance Management or BPM* is the component focused on managing strategies aimed at performance. And finally, as the last component, according to Turban (2009) is the user interface, the means, the platform used to access information. The idea is that “the tools must be easy to learn, with features that allow the user to obtain what they need efficiently and safely, making them feel satisfied” (Ciupak, Boscaroli and Catarino, 2013, p. 55).

It should be noted that strategic mismatches in mapping the real interests of organizations in data collection can distort the interpretation of information, which will culminate in the failure of the system. These factors can be exacerbated by employee resistance due to lack of knowledge of the functionality and benefits of the system. *Business Intelligence*.

## 2.4 ENTERPRISE RESOURCE PLANNING (ERP) IN DECISION-MAKING MANAGEMENT

Enterprise resource planning is a tool that combines and consolidates data from the institution's departments to facilitate managers' decisions in real time, which generates value, savings, efficiency and more assertive results, these being its benefits.

In conceptual terms, it represents "a comprehensive and integrated software package that enables the standardization and automation of business processes using a unified database and real-time transactions" (Medeiros Jr., 2007, p. 50). Albertão (2005, p. 18) understands ERP as being "an architecture in which information is available and circulates throughout all of the company's activities, such as logistics, manufacturing, finance, and human resources; therefore, we are talking about an integrated management system".

Integration of information systems also brings with it the expectation that the ready-made system (even with customizations) will be less costly than developing an equally efficient and integrated systems architecture internally. In addition to the possibility of reducing costs, integration brings with it the advantage of greater integration of the different business functions, increasing the performance of the entire organization (Laurindo and Mesquita, 2000, p. 330).

It is necessary to know which technology and which *software* will be used to meet business expectations, in addition to defining the implementation method and data feeding, which broadens its definition by encompassing control and execution procedures, aimed at generating value in the internal organizational structure (Colângelo Filho, 2001; Souza, 2000; Mazilli, 2003).

It is not enough for an information system to provide good quality information to support decision-making activities and improve the company as a whole. The decision-maker also needs to know what to do to transform the good information provided into a good decision, as well as manage technology and monitor changes that occur at an organizational and global level (OLIVEIRA *et. al.*, 2008 p.2).

Despite the advantages mentioned, it is necessary to visualize and counterbalance possible obstacles, such as the existence of multiple pieces of information that can delay opinion positions by waiting for data from other sectors, which generates a dependency, which is not always beneficial to the system, to the people responsible for managing the information, in addition to the costs involved (Oliveira *et. al.*, 2008).

When implementing an ERP, the company is implicitly acquiring a generic solution, which incorporates the best management practices, from the supplier's perspective. *software*". In many cases, this means a more efficient way of working, but there are occasions when the company may lose important differentiating characteristics that make it more competitive compared to its competitors. Therefore, it is necessary to analyze whether the business practices included in the ERP "package" coincide



with the most appropriate practices for the particularities of the client company's business. (LAURINDO; MESQUITA, 2000, p.330).

It is worth noting that a potential problem regarding the success or failure of ERP is related to people's receptiveness to it, a warning made by Caiçara Junior (2008, p. 103) when he ensures that in the process of organizational change "there is generally resistance on the part of people. Several ERP implementation projects have failed due to the fact that organizations did not prepare their workforce for the new forms of organization imposed by the system".

In the same sense, this is the concern of Albertão (2005, p. 19), since information represents "the backbone of an organization. It can lead the company without major problems, but it can also cause terrible pain. It is like a medicine: used in the correct dose it can cure, but used incorrectly, it can lead to serious consequences".

## **FINAL CONSIDERATIONS**

Any decision, in terms of quality, requires the confrontation and understanding of several factors. To this end, it is necessary to establish a procedural path that begins with the absorption of interpretable data so that there is timely dissemination of information to the sectors directly or indirectly involved in the decision.

Establishing means to facilitate the flow of this information is an essential attitude. To this end, the choice of the best tool and its technological resources must be encouraged by the organization, given the effects of speed, information sharing and the attempt to make the most assertive decisions based on solid criteria.

As a result, the business management model itself will undergo disruptive changes in the application of *Business Intelligence* and ERP to enhance results have proven to be relevant within organizations, especially regarding the performance verified in the effects generated by adding value to decisions.

Finally, it is important to note that for effective success to occur, human capital must be involved. People whose participation is essential in the process, directly or indirectly, must see such technological changes as allies of the activity, otherwise the system will be cheated by manipulating erroneous data, which will harm the organization as a whole.

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