ISSN: 2230-9926

Available online at http://www.journalijdr.com

IJDR

International Journal of Development Research
Vol. 07, Issue, 09, pp.15279-15282, September, 2017

ORIGINAL RESEARCH ARTICLE OPEN ACCESS

HOW TO IMPROVE DECISION MAKING KNOWLEDGE MANAGEMENT

[1]Joaquim Rodrigo de Oliveira, [1]Stéfano Frizzo Stefenon, [1]Cristina Keiko Yamaguchi, [2]Anne Carolina Rodrigues Klaar and [3]Marcio Jose Sembay

[1]Professor of University of Planalto Catarinense, Brazil
[2]Professor of National Service of Industrial Learning
[3]Professor of University Center Facvest

ARTICLE INFO

Article History:
Received 22nd June, 2017
Received in revised form
09th July, 2017
Accepted 20th August, 2017
Published online 29th September, 2017

Keywords:
Technology Management,
Contemporary Organizations,
Decision-Making.

Corresponding author

ABSTRACT

The analysis in this article refers to how important is the management of technology, since contemporary organizations present countless problems, having to make decisions constantly, without forgetting that these same organizations can not fail, because it is necessary to be agile and accurate. This article addresses the main needs of different organizational levels that make decisions and compare organizational problems to systems that provide them with secure solutions. We analyze the importance of knowledge management as a strong impact in daily decision making at all levels and organizations, optimizing and reducing costs if applied and used properly. We emphasize the importance of the organization knowing that it uses a tool that will meet its needs, increasing its productivity and providing growth and security in its decisions.

Citation: Joaquim Rodrigo de Oliveira, Stéfano Frizzo Stefenon, Cristina Keiko Yamaguchi, Anne Carolina Rodrigues Klaar and Marcio Jose Sembay. 2017. "How to improve decision making knowledge management", *International Journal of Development Research*, 7, (09), 15279-15282.

INTRODUCTION

The technological revolution that plagues today's organizations show us a scenario where we can dare and believe that it is possible to reach strategic levels and markets without wasting time with unnecessary rework and insufficiencies (Stefenon, de Oliveira, Coelho and Meyer, 2017). Management has undoubtedly been a picture of constant decision making, since even the operational levels have access to the data and need to make frequent decisions, even if small and anodyne, rather than in a context, they bring costs and great value to organizations (Eissmann, Stefenon and Arruda, 2017). According to Laudo (2010), "One of the main contributions of information systems is the improvement of decision making, whether for individuals or groups. Decision-making in companies used to be limited to the board. Today, lower-level employees are responsible for some of these decisions, as information systems make data available to the company's most elementary layers".

What is needed is for the company to identify where its bottlenecks are and where they need the technological support to develop the information more truthfully and with more comprehensiveness and agility, since all the processes where they require decision making are strictly linked to costs (Eissmann, Stefenon and Arruda, 2017). It is certainly essential that all organizations have a system because it is inevitable regardless of the proportion and size of the organization that make decisions. Technology allows us in this context a broader and more comprehensive view of all related data and captures with greater precision and agility so that a good decision is adopted, assisting the different operational levels at different times and needs (Agostinho *et al*., 2017). With the help and good knowledge management it is necessary to reduce costs, improve time, gain in quality and productivity. Key factors for all organizations (Yamaguchi, Vieira, Watanabe, Freire, 2015; Duminelli, Topanotti, Yamaguchi, 2017).

Information technology has multiplied for organizations as long as managers identify where the problems are and choose the right tools so that they work out well and achieve the desired benefits (Jilli *et al*., 2014). Otherwise, it will not be what will happen, because each system assists in a certain difficulty and supports a specific type of decision (Watanabe, Madruga, Yamaguchi, Jenoveva-Neto, 2014). After analyzing each of them it is possible to make the choice of what fits the most for the need of your organization and to reap the fruits of a good result. This work aims to evaluate the importance of information technology tools for decision making and the applicability of these techniques, so that clients and employees have more security in decision making and the company has more profits and productivity.

PROJECT

Let's emphasize that in the 21st century where we live in an increasingly globalized world, only the best gain space in the market. Information technology has brought a competitive differential above the average, that is, for those who know how to handle and use it properly. For to enter, and above all to stay in the market, you need creativity and constant innovations. Computing is a tool that only adds to the organizations, because they allow the same rapid and precise sharing of information, as well as allows a drastic optimization of the time, reducing in this way the cost that is one of the main villains of the organizations of the present time. According to Tronco (2006), "a fundamental aspect of the new generation networks is the integration of services, reducing the cost of operating different networks".

It is necessary to analyze all the angles at first and to identify the real need of the organization, because to adapt to the technology it is necessary first the security in the chosen system, therefore it must be and provide security in order to not expose confidential information at levels that do not fit, and the second step is for the organization to be fully aware that from the moment a new operating system is deployed, it will need to invest in training and capacity building because the changes can be large in the process and in the workplace.
The use of information technology has been added for organizations, as long as they identify where they are occurring to failures and invest in a policy of continuous training and improvement, thus making it essential to increase productivity and reduce costs. According to Tronco (2006), "the technological scenario of telecommunications networks has been affected by intense transformation forces, aiming at the creation of an open multi-vendor environment that favors the reduction of costs of equipment and services offered to users".

Then we wondered. How do these systems help? At what stage of the organizational process can they be useful to us?

Nowadays, with the decentralization of processes, decision-making is not restricted to the board, since information technology allows even the most operational part of companies to have access to information. In this way, systems are paramount to the aid of decision-making. It is interesting to note that spending on enhancement and improvement with the Information Technology (IT) part of the organization are investments, as long as identified to the needs of the organization the system helps to increase revenue and reduce the cost.

Regardless of the size of the organization it is indispensable to have a system, because all the operational levels directly or indirectly take decisions. How to know which system to use and at what time?

First, one must understand what decision-making consists of. We can classify decision making into three categories and we must be aware that for each of them different information is needed.

- Unstructured decisions: They are not routine, common sense is needed and there are no procedures. They are common at the highest levels of organizations, they are often decisions of senior managers.
- Structured decisions: They are routine, with predefined procedures, more common at the average levels of organizations. Usually used by middle management.
- Semi-structured decisions: Only part of the problem will have a clear solution, common at the operational management levels and in technical teams.

The decision-making process consists of different activities. According to Hampton (1992) "there are a series of steps for making decisions that are defining the problem, obtaining all the data, formulating alternatives, pondering and deciding.

Define the problem: It is nothing more than identifying the problem and its origin;

- G*et al*l data: Check on what the problem is affecting and disrupting the organization;
- Formulate alternatives: It consists of identifying possible solutions to the problem in question;
- Ponder and decide: Choose one of the alternatives and apply it.

If the chosen alternative does not solve the problem in question then one should study and apply a new method for it to be solved. However, the precision and speed of decision-making must be kept in mind, since it is necessary to be coherent and agile when making such a determination. To do this one can use one of the decision support systems, in this article we will cite some that support the different levels and types of decisions. According to Hampton (1992) "[...] not only do structural and administrative characteristics vary with technology, but that the particular form of structure for each type of technology helps to ensure effective organizational performance."

Management Information Systems (MIS) addresses structured issues, provides performance information, and is based on reports drawn from SPT systems that support day-to-day operations and serve operational levels. MIS systems are exception reports, that is, highlight some special conditions, your reports can be made available on the company intranet, and be generated on demand. Serves for corrective decision making, monitoring of costs among others. Decision support systems (DSS) support semi-structured and unstructured problems. They are based on the combination of user interface and well-founded model, thus generating the ability to analyze. They are used to manipulate and analyze large volumes of data at different angles and huge amounts of data in large corporate systems thus allowing decision making can function as a database. These extract information useful in large amounts of data (Levi, Kaminsky, Levi, 2010).

DSS can be found in several components such as:

- DSS database: Can be small or combined with external data, can be a great data warehouse.
- DSS software systems: Used for data analysis, they may contain various OLAP tools which vary the models according to the need of the organization. These can vary the models as each of them attends to the relationship of a phenomenon such as establishing relationships, determining impact on results. Or they can still be spreadsheet software. Even in DSS systems, managers can use PivotTables to understand and identify patterns in information.
- User Interface: Its interface allows easy access between users and system tools.

Within DSS systems it has a special category for data visualizations such as charts, tables, maps and images called MIS geographic information systems, collects, stores and manipulates the information as displayed as geographically scanned maps, giving the manager a view decision-making process. And finally the DSS presents and a customer-based decision support system on the web DSS web-based and internet works online where you have the information with software that analyzes the data. Executive Support Systems (ESS) help solve unstructured problems and semi-structured, especially for the decisions of the senior manages. Gather internal data, external and even the web. With simple manipulation tools provide online views that provide users to have easy access to information they need. They focus on the details of the problems by highlighting them for a broad view of the organization.

With the option of drill down it allows that variation of levels more summarized to the more complex and detailed. It brings all the information you need to run an organization on the dashboard or executive dashboard that resembles a dashboard, it's where they are in the form of charts and tables in order to broaden the view on the most relevant to essential indicators. They assist in controlling organizational performance, monitoring competition, market research, and identifying opportunities and problems. Group Decision Support Systems (GDSS) assist in making unstructured and group decisions, they can be groupware tools that are used for video conferencing. In this way, the main forms of group decision-making, GDSS systems function as a network that interconnects information and data, and with the permission of the employees who manipulate it, allows the rapid sharing of information or even the transmission on screens since it is composed of hardware and software. Follow structured methods and enable higher productivity because of increased participation of multiple users simultaneous generating ideas and sharing information. It stores all the information of the meetings allowing in this way that this data is visualized after, even by users who did not participate in it, its efficiency depends on how the group directs and identifies the problems and also how the information disposes. For decision making it is also interesting to use intelligent techniques that are systems of reasoning, also called Artificial Intelligence (AI) (Levi, Kaminsky, Levi, 2010). For decisions where expertise has high and insufficient cost, there are expert systems the same pick up the human capacity in a domain that together turns it into rules for a software system that can be used by other members of the organization (Oliveira, Coelho, Stefenon, Yamaguchi, 2017).

It works with a series of rules that the user registers, rules that capture the information and translates the best decision reducing in such a way the errors, costs, time and increase the quality of the decision and the quality of the service. If what the organization needs to be a diagnostic reasoning system based on chaos allows the knowledge of certain individuals to improve themselves becoming so in collective practices, this system provides the solutions that best fit for certain problems, functioned as a comparison system (Stefenon, Meyer and Molina, 2015; Stefenon, Meyer and Molina, 2016). In order to solve complex problems that were not fully understood and which already have a large amount of data absorbed, one can use the neural networks that solve the problems by imitating the human reasoning patterns, it is a self corrective system, because it analyzes identifies and corrects system mistakes. This allows a more confident decision-making process. If a management problem is a complex problem, there is the so-called database-based fuzzy logic, and it uses a six-stage process where the user gives a description of the problem, so the system looks for similarity in the database and launches this so as to answer the questions, it identifies the case that most assimilates and adjusts the solution so that the problem is solved.

Already for the solution of specific and complex problems are indicated the genetic algorithms that work by combining all the possible alternatives until finding the one that will possibly solve the problem. Alternatives that are not selected are automatically deleted and those that have been served remain in the system for an even better solution. Unlike the algorithms, the intelligent agents help when a large volume of data, without any direct maintenance of the user, work exclusively for him with repetitive executions, they travel all the internet in search of information. They aid in daily chores because they can be programmed. We endorse on knowledge management systems that are the foundation for decision making, for managing what individuals do with the information, the processing and providing possible solutions to those problems. These systems can be divided into two main types: Integrated knowledge management systems and knowledge worker systems. Integrated knowledge management systems work with three types of knowledge: documents, semi-structured knowledge that are formal knowledge and non-formal knowledge that we can classify as implicit. With the company as a whole collecting information and disseminating it to all the individuals in the organization.

According to Laudon and Laudon (2010) "Such systems are of general use and cover the entire enterprise, collecting, storing, distributing and applying digital content and knowledge. These systems include features to find information, store structured and unstructured data and find the technical knowledge of the company's employees. They also include support technologies such as portals, search engines, collaboration tools (e-mail, instant messaging and groupware) and learning management systems". For each type of knowledge a specific system is required. Knowledge of documents requires an integrated content management system that assists in the storage of information and formal documents. For semi-structured knowledge, it is necessary the knowledge networks systems that are necessary when the knowledge is in the specialist's mind and not in the form of data in the network, in this way the system is a bridge between the doubter and the possible solver. Finally, collaboration tools and learning management systems provide easy access and location of information for

employees and managers to monitor and control such information. On the other hand, knowledge workers' systems are the systems that aid in the development of new technological aids. These require large database connections and require specialized software and hardware and are focused on external knowledge. According to Laudon and Laudon (2010) "Systems of knowledge workers are those developed specifically for engineers, scientists and other knowledge workers, whose aim is to promote the creation of content and ensure that new information and expertise are properly integrated to the company". We can find this kind of systems as virtual reality systems, the best known is the CAD which are computer aided projection systems and is among the main applications. Knowledge worker systems have powerful graphical analysis capabilities that facilitate document management and have a clear user interface. Based on all the systems presented, decision making that is such an important role for the organization can be even more accurate and accurate, what is needed is to identify the problem of the organization and thus choose the system that best fits for In this way, the problem will be solved with more agility and precision, thus facilitating the lives of managers, since the information technology era has been added to the organizations.

CONCLUSION

We conclude with the elaboration of this article, how important are the tools and the systems of information technology for the decision making of the organizations in the different problems and organizational levels, this article brought a brief report of systems and tools that help in each specific type of decision-making and what the outcome each of these provides for organization. The correct use of these information technology systems allows organizations to reduce risks when making decisions, as well as reducing costs, providing security at the time of decision, rapid and accurate sharing of information, quality and agility in service delivery. customer and employees, optimizing time and generating profits and productivity.

The importance of good knowledge management and the new functionalities of information technology, which in the short and long term bring constant transformations to organizations, of how communication has become a bridge between the linkages of the various sectors and segments and the ease with which organizational processes have been emphasizing, it is up to managers to identify where they are failing and to understand the real need of their organizations, thus applying the most appropriate system, which will bring solid and safe results. The result of the application of the techniques was the improvement in the identification of problems in the organization of the company and a direct resolution, with precision through the managers. In view of the growing application of information technology within organizations, these techniques tend to spread and be applied more and more to improve productive or administrative processes.We can also affirm that the new generation of knowledge managers is linked to how well they perform and understand the real needs of different organizational levels, as well as not only cover the administration of information technology, but also know how to apply it and to have it as an ally in organizational management.

REFERENCES

Agostinho, F. R. *et al*. 2017. "Estudo sobre a viabilidade financeira na atualização tecnológica de uma planta fabril: Utilização de motores elétricos de alta eficiência e iluminação LED," in *Revista Espacio*s, vol. 38, no. 12, pp. 5-17, 2017. Available in: http://www.revistaespacios.com/a17v38n12/17381205.html

Duminelli, M. V., Topanotti, M. B., Yamaguchi, C. K. 2017. "Análise dos estudos sobre o empreendedorismo e o empoderamento feminino", in *Revista Contribuciones a las Ciencias Sociales*, Available in: http://www.eumed.net/rev/cccss/2017/01/emprendedorismo.html

Eissmann, J. C., Stefenon, S. F., Arruda, P. A. 2017. "Gestão Estratégica como Ferramenta para a Governança Corporativa: Um Estudo de Caso". in *Revista Espacio*s, vol. 38, no. 16, pp. 22, 2017. Available in: http://www.revistaespacios.com/a17v38n16/17381623.html

Hampton, D. R. 1992. "Administração contemporânea", 3º ed., Makron Books.

Jilli J. C. *et al*. 2014. "A Gestão do Conhecimento na Universidade do Extremo Sul Catarinense -UNESC: Os Desafios para a Explicitação do Conhecimento", in *XIV Colóquio Internacional de Gestão Universitária –CIGU*, Florianópolis.

Laudon, K., Laudon, J. 2010. "Sistemas de Informação Gerenciais", 9º ed, São Paulo: Pearson.

Levi, D. S., P. Kaminsky, Levi, E. S. 2010. "Cadeia de Suprimentos Projeto e Gestão: Conceitos, Estratégias e Estudos de Caso". 3º ed., Porto Alegre: Bookman.

Oliveira, J. R., Coelho, A. S., Stefenon, S. F., Yamaguchi, C. K. 2017. "Stochastic Approach - Markov Chain Applied To The Analysis And Project Of The Information Systems Oriented To Object", *in International Journal of Development Research*, vol. 07, no. 6, pp. 13139-13143,. doi: 10.5281/zenodo.883855

Stefenon, S. F., de Oliveira, J. R., Coelho, A. S. and Meyer, L. H. 2017. "Diagnostic of Insulators of Conventional Grid Through LabVIEW Analysis of FFT Signal Generated from Ultrasound Detector," in IEEE Latin America Transactions**,** vol. 15, no. 5, pp. 884-889, May. doi: 10.1109/TLA.2017.7910202

Stefenon, S. F., Meyer, L. H. and Molina, F. H. 2015. "Real Time Automated Diagnosis of Insulating System Employng Ultrasound Inspection," in *International Conference on Electricity Distribution*, vol. 23, pp. 1-4, Lion.

Stefenon, S. F., Meyer, L.H. and Molina, F. H. 2014. "Analysis of the Ultrasound Emitted from Defective Insulators," in *International Conference on Condition Monitoring and Diagnosis (CMD)*, Jeju Island.

Tronco, T. R. 2006. "Redes de nova geração", 2º ed., Editora Érica/Saraiva.

Watanabe, M., Madruga, L. R. R. G., Yamaguchi, C. K., Jenoveva-Neto, R. "Decision Making and Social Learning: the Case of Watershed Committee of the State of Rio Grande do Sul, Brazil", in *Water Resources Management*, vol. 28, no. 11, pp. 3815-3828, 2014. doi: 10.1007/s11269-014-0711-2

Yamaguchi, C. K., A. C. P. Vieira, M. Watanabe, P. S. Freire, 2015. "Geographical indication in the process of creating knowledge to develop new competences", in African *Journal of Business Management*, vol. 9, no. 9, pp. 412-424, 2015. doi: 10.5897/AJBM2013.7200

****