

## The Influence and Benefits of Technology as a Strategy in Organizations

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### ABSTRACT

The article presents a description of "The Influence and Benefits of Technology as a Strategy in Organizations." Technology is considered as a competitive advantage, which allows organizations to benefit, this technology means that these companies can maintain themselves and acquire a position interesting within the market, now organizations are interested in the acquisition of technology, this acquisition takes value because of the economic importance that can come from having the best technology within the organization. The document presents information about technology as a key strategy, which can help companies to create a competitive advantage within the market.

**Keywords:** *Technology; strategy; acquisition of technology, organizations, competitive advantage, knowledge management.*

### INTRODUCTION

In the article, on the one hand, it is talked mainly about the Influence and Benefits of Technology as a Strategy in Organizations, and for this, it is necessary to make a small description of where organizations come from. The organizations are born from the need of people to group themselves, these groups, gather certain characteristics such as: individuals with common interests, the same objective, and the need for investment together, among other characteristics. The organizations demand an order that allows reaching their objectives. This order is related to the structure, administrative processes, and the constant technological updating within the organization. On the other hand, the article presents a description of the main characteristics to consider for the acquisition and integration of new technology.

One of the strategies of companies is to constantly seek ways to remain within the market, so it is necessary to perform different processes such as, the update of human resources with which the organization has and the acquisition of technology. The combination of these two it can result in the creation of a competitive advantage. As Porter (2009)[1] says, today organizations of all kinds are forced to compete to provide value, understood as the ability to meet or exceed the needs of customers effectively; any organization needs a strategy to offer superior value to its customers. It is said that only organizations that are competitive are those that survive in the market.

This document is structured as follows. In the first place: there is the approach to the problem, which is what gives direction to the investigation. Second, the justification is located, which is what gives reason to the

investigation. Third, there is the objective, the question and the hypothesis; these give meaning to the research process. Fourth, Structure, which allows to show information about the influence and benefits of technology as a strategy in organizations. In fifth place, is the theoretical Framework, which contains the review of the theorists that support the concept of research. In sixth place is the methodology used to obtain the information. In eighth place the results are presented, to reach the conclusions, and possible lines of future research. The document is presented as follows, in a first part the problem statement, with the justification of the study, objectives, questions and hypotheses. In a second part, it is explained the structure of the document with its theoretical framework and methodology, to finish it in the third part, with the results and conclusions.

It is said that the adoption and use of technology influence a key element within organizations. This contributes to a competitive advantage strategy that allows companies to be placed in some position within the market. In order to achieve this competitive advantage, it is necessary to have a well-prepared and competent team in the use and management of the technology, as well as in the process of updating the necessary processes. To achieve the above, it is necessary to plan different strategies that allow to create awareness and to create in the personnel a positive attitude with respect to the adoption and updating of the technology, within their daily activity. According to Stern, (2002) [2] technologies are a tool that allows different strategies to be developed within organizations, with the aim of making the organization more competitive.

Currently, technologies are part of the daily life of most individuals and organizations (businesses, schools, churches, among others), are seen as necessary for the case of companies, the stay and permanence within the market. Therefore, organizations must include constant training and the acquisition of technologies that allow them to be more competitive. The acquisition and use of technologies, is favorable to organizations, can reduce the possibility of being out of the market, and increases the possibility of being more competitive. The adoption of the use of technology, leads to the change within the organization. It is necessary to have sufficient trained personnel in the new practices of the company with respect to the adoption of technology, with the sole objective of being more competitive within the market. The use of technology increases the possibility of being able to carry out new business, optimize processes and then increase the economic growth of the organization. Hence, the need to investigate the influence and benefits of technology is as a strategy in organizations.

The objective of this article is to identify, through documentary information, the influence and benefits of technology as a strategy in organizations. This can be a support for the companies, because it can allow them to establish the relationship between the influence, adoption and acquisition of technology, with respect to the benefits and economic gain obtained from the application of the use of technology.

## RESEARCH QUESTIONS AND HYPOTHESIS

Is there a relationship between the acquisition and use of technology with respect to the benefits obtained from this application in the Organizations?

H1: The Acquisition and Use of Technology in Organizations are a positive influence that is reflected in economic benefits.

H2: The Acquisition and implementation of Technology is a competitive strategy of organizations.

H3: The Acquisition and implementation of Technology positively influences organizations that allow them to stay within the market.

The purpose of the document is to offer information to facilitate decision-making in the acquisition of new technology, through documentary evidence about the processes to be followed. The processes of acquisition of new technology in organizations are a key piece for these, because they are considered as the option that allows keeping organizations as competitive companies within the market. El Tiempo (2014) [3] in an interview with Brennan, vice-president at that time of the SMEs worldwide, affirms that the mission of the companies that provide technology of any kind, is to help SMEs to Get more results in the business from its investments in technology. Technology allows organizations to offer different products, solutions and services, among others. For Belloch (2012) [4] ICTs are the set of technologies that allow access, production, processing and communication of information presented in different codes (text, image, sound, Leavit, (1965) [5] define ICT in three categories,

- A. Processing techniques
- B. Application of statistical and mathematical methods for decision making
- C. Simulation of higher order thinking through computer programs.

ICTs are expressed in the use of computers, equipment that allows storing, retrieving, transmitting and manipulating data in the context of business. ICT also includes television, telephones, hardware, software, and the internet, e-commerce and computer services. The acquisition or investment of technology is generally related to different processes that are expected to positively influence companies and how it should be adopted to obtain maximum benefits. It is presumed that the integration of technologies in companies allows:

- A. Improve administrative processes
- B. Facilitate information management.
- C. Reduces costs
- D. Increase competitiveness.

Especially in the current environments that have become very competitive, organizations are looking for more options that allow them to obtain this advantage with respect to other companies. Porter (2003) [6] calls the competitive advantage as the value that a company is able to create for its customers. The organizations in order to achieve the economic advantage are able to adopt and modify anything within the company, from the structure, administrative processes, personnel update, technological advances, in short, adopt any change according to the preferences according to their consumers. Villaseca and Torrent (2001) [7], cite the OECD (1998) [8], which mentions that technological innovation has changed the economic structure of advanced economies from several dimensions and that in turn fosters the synergy that it generates over the rest of the economy. Thasos (2018) [9], argues that technology has been an important factor in economic expansion throughout the history of mankind. Feeney, (2007) [10] affirms that it is necessary to develop a technological leadership strategy that allows the creation of an economic and institutional regime that allows providing an efficient creation and application of knowledge to the economic process of the company.

However, technology alone cannot achieve success, it is necessary to make a series of adjustments within the company, rely on all possible tools to achieve the efficient use of technologies. The organization has structure, administrative processes, goals and objectives to be achieved, which are directly linked to the constant updating of technology. A consequence of the acquisition, implementation and use of technology allows improving the administration processes. Therefore, the organizations are aware of the need to invest in the acquisition of state-of-the-art technology that allows them to appear in the market in a good position and at the same time allows them to perfect their administrative processes with the ultimate goal of achieving greater success. From the above it is argued that it is advisable to rely on the following theories.

## **THEORETICAL FRAMEWORK OF DYNAMIC CAPACITIES AND KNOWLEDGE MANAGEMENT**

According to Rivera and Figueroa [11], referring to Ahenkora and Adhei (2012) [12], Dávila (2013) [13], Ellonen et al., (2011) [14] and argue that companies develop dynamic capacities that allow them to generate sustainable competitive advantages. They also say that dynamic capacities are developed as a route that allows the continuous exploration of competencies according to the transformations in the environment. Miranda, (2015) [15], presents the model of dynamic capabilities in organizations, where he cites O Regan and Ghobadian, (2004)[16] as those who argue that resources are defined as the set of knowledge, physical assets, human capital and others tangible and intangible factors that organizations own and control, which allow them to produce efficiently and effectively to offer their products and services to the market. And he says that these resources serve as a source of competitive advantage in the long term, when they can be evaluated, rare, difficult to imitate and not substitutable and dynamic capabilities allow the resources of the organization to have these attributes and be superior to those of the competition (Eisenhardt and Martín, 2000) [17].

Garzón, (2015)[18] in his article the dynamic capacities in the organizations, he mentions that the dynamic capacities show common characteristics for several organizations; likewise he maintains that the dynamic capacities will be source of competitive advantage of the organizations. It also says that the theory of dynamic capabilities is aimed at achieving greater understanding about why some organizations build and maintain a competitive advantage, despite the changes that occur today. According to Vargas, (2015) [19] neo-institutionalism studies the features of the economic institutional structures that enable the development of peoples. According to Arias Pineda (2008) [20], he mentions that neo-institutionalism helps to study administrative phenomena systemically and in context, establishes relationships between cultural and social factors, as well as the various forms of human association, in order to understand the process organizational.

While Tijerina (2008) [21] in his article of "The neo institutionalism of Duglas ..., states that organizations are conceived as groups of individuals with common identities and objectives for-profit companies, political bodies, economic bodies, social bodies, educational bodies. It talks about the transaction costs defined by the cost of acquiring information. He also mentions that they are jointly determined by incentives, the behavior of state agencies and technology, among others. Esquinca (2011) [22], states that neo-institutionalism aims to carry out actions according to reality without departing from the legal norm. These are to give organizations a certain degree of freedom without falling into legal contradictions. Salazar López (2016) [23], suggests that the modeling of networks allows the resolution of multiple mathematical programming

problems through the implementation of special algorithms. It is presented the following basic concepts in network theory.

- 1) Graphic; represented by a series of points called nodes, joined by lines called branches.
- 2) Network; graph with some type of flow in its branches. Symbols representing the nodes and branches are used.
- 3) Chain; Series of branch elements
- 4) Route; the nodes that constitute a chain.
- 5) Cycle; a cycle corresponds to the chain that links a node to itself.
- 6) Tree; It is a graph in which there are no cycles.

Although the conception of network theory focuses on solving mathematical programming problems, the existence of different types of networks is known:

- 1) Social.
- 2) Transportation.
- 3) Electric.
- 4) Biological.
- 5) Internet, and
- 6) Information.

The theory of social networks according to González (2014) [24], the idea of social network began to be nuanced in the social sciences, since the thirties of the last century. He points out those social networks arise from the process of social interaction and cites Madariaga & Sierra, (2000) [25], who defines it as the process by which a group of people are oriented towards others and act accordingly to the behaviors of one another. The importance of networks is the possibility of establishing connections to any part of the world with any person that is of our interest. At this time in the world there is a mega conglomerate of networks, which allows, facilitate and promote connectivity between different organizations, people and devices that may or may not be in different countries.

The theory of networks takes importance within organizations, by the evolution in the way that organizations, organizations that have introduced technologies, which allow a better interaction between people, with greater speed and efficiency, this in turn generates relationships that allow the creation of a support network between organizations. However, the introduction of technologies has become a challenge for companies that have a rigid structure, and if they want to survive they must adapt to this new social environment, where it is very important to know how communication mechanisms work between people, how to access information, the necessary change in decision making, transmission and dissemination of messages, ideas, promotion of collaboration, drive innovation to compete in the market. Therefore, it is important to recognize the existence of types of networks, and consider the way in which information circulates in these networks.

First, the type of computer networks according to Apser (2015) [26] specialized in platform design is presented:

**Table 1:** Types of computer networks

Types of computer networks		
According to its use	Shared networks	Unites a large number of users.
	Exclusive networks	Connect two or more points exclusively. (Security, speed or absence of other types of networks).
According to your property,	Private networks	They are managed by companies, individuals or associations. (owners only)
	Public networks	Belong to state agencies and are open to anyone who requests it.
Depending on your location and service coverage	Local area networks (LAN):	Connected computers are at small distances, for example, those that connect home or office equipment
	Metropolitan area networks (MAN)	More extensive than the previous ones, they are formed by several LANs connected to each other.
	Wide area networks (WANs)	Cover a large area, often even a whole country or continent.
Depending on the type of access	Wired:	Computers connect to the network through electromagnetic waves transmitted by air (Wi-Fi).
	Wireless:	Computers connect to the network through electromagnetic waves transmitted by air (Wi-Fi).
	Combination of the previous two: the network has both WAP wireless access points and cable connections.	

**Source:** Own elaboration, based on the information of Apser (2015).

For this case, it is important to present the classification of type of business tools, presented by ANTENNA communications (2016) [27] and is centralized and decentralized networks.

Centralized: the communication revolves around a single person, who is in charge of directing the whole process and works as a link or main axis for the other Decentralized members: the participants interact constantly without there being a leader or prominent member in the chain.

From the above it is necessary to consider Robinson's social network analysis (2014)[26], who says that it is a methodology imported from the field of sociology and widely used in Social Sciences as well as in Natural and Exact Sciences, which allows to identify underlying structures of the relationship between different actors and the situations of power and subordination that exist between them. It is based on the theory of networks that conceives the object of analysis not as independent units, but as members of a network in which relationships are established among themselves. And in this sense, the analysis allows the identification of collaboration groups, the power relations among the collaborators themselves. For this case it is important to present the classification of type of business tools, presented by ANTENNA communications (2016) [28], and are centralized and decentralized networks.

Nonaka (1999) [29] argues that knowledge management is a system that facilitates the search, coding, systematization and dissemination of individual and collective experience of the human talent of the organization, to turn them into knowledge, with the objective of generating competitive advantage in a

dynamic environment. Rodríguez Rovira, (1999) [30] affirms that information professionals can help today, the top management of companies and all types of corporations, to understand the determining role that knowledge management can play to guarantee the future of their organizations through the Influence and competitive advantages.

Competitive advantages of Knowledge Management:

- 1) Improvement of quality in products and services.
- 2) Improvement of customer service.
- 3) Improvement of relations with suppliers.
- 4) Create conditions to improve the work environment.
- 5) Better interpersonal communication.
- 6) It improves the information and the communication; it stimulates the participation of the workers.
- 7) Reduction in the number of management / production processes.
- 8) Simplification of management / production processes.
- 9) It allows greater efficiency in the use of resources.
- 10) It provides better tools for managing management.

Knowledge management involves different components, mainly learning, human capital, and intellectual, all this aims to raise and strengthen the areas of companies through increased learning, with the ultimate goal of increasing competitiveness[31]. With this are being leaders in the market, to have new business opportunities, improvement in communication between the members of the organization, generation of a network of collaborators. However, to achieve an efficient knowledge management it is necessary to consider the possibility of having documentary evidence, for constant consultation and to be able to share it with the members of the organization. It is of no use if it is not distributed. This is where the technologies take an important role, because they provide the possibility of facilitating access to information through different tools, such as 1) Creation of databases. 2) Software. 3) Internal platform and everything that facilitates access to this information, which allows a timely consultation for its application and administration.

For organizations, knowledge management promotes communication among collaborators. Something that cannot be ignored is that globalization covers all areas, markets and technological progress, said globalization forces economies to seek cost reduction in the production of goods and services offered to the customer. As a result of the above requires companies to an increase in the use, application and implementation of technology, to be able to figure within the market. From the above it was considered necessary to consult the 2014 economic censuses of INEGI, to obtain information that may reflect at least the heading of the introduction of technologies, specifically the use of computer equipment in several sectors and it was obtained that in the manufacturing area, business and services; with respect to the items of:

- 1) Banking and financial operations.
- 2) Procedures or governmental procedures.
- 3) Purchase-sale of services or products.
- 4) Information search.
- 5) Perform business management.

With the following results expressed in percentages:

In Greater application of computer equipment in the heading of manufactures:

Search for information with	91.2%
Business management with	65.4%
Banking and financial operations	62.7%
The two remaining items below	50. %

In greater application of computer equipment in the commerce area:

Search for information with	83.2%
Business management with	65%
Banking and financial operations	51.2%
The two remaining items below	40%

In Greater application of computer equipment in the field of services:

Search for information with	89.9%
Business management with	62.9%
The three remaining items below	42%

These three items are those that make it possible to demonstrate the use of technology in activities within organizations (INEGI, 2014) [32]. This gives a small idea of how it is present, the use of technology in the life of organizations.

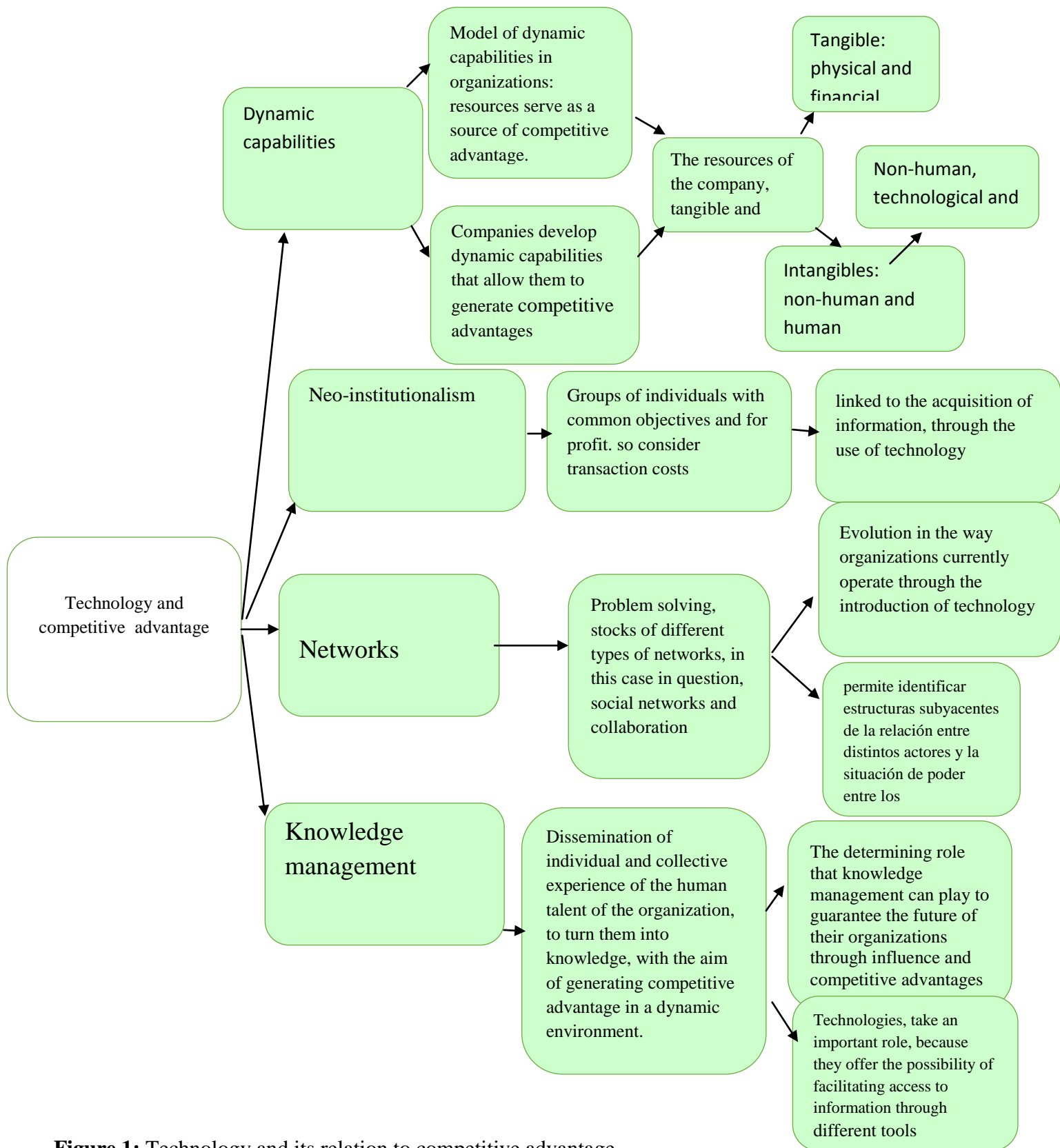
## **METHODOLOGY (METHOD)**

It is based on documentary information obtained mainly from studies conducted about organizations, technology, strategy, technology acquisition, competitive advantage, which are the main variables, as well as knowledge management and different theories that can allow a review and analysis, about the influence and benefits of technology as a strategy in organizations (Hernández, Baptista and Fernández, 2010) [33].

## **RESULTS**

An own elaboration scheme is presented based on the theories addressed in the document, which allows to visualize, how these theories intertwine and show interest in the central variables, technology and competitive advantage, mainly. Hence, it is considered that technologies are a positive influence in organizations and that they are used as a strategy, to figure and remain valid and within the market.





**Figure 1:** Technology and its relation to competitive advantage  
**Source:** Own elaboration.

## DISCUSSION, CONCLUSIONS AND FUTURE LINES OF RESEARCH

It is concluded that, with the documentary information obtained from different sources, it allowed to show where, as the technologies and the competitive advantage are manifested and that is evidently a strategy and influence within the organizations, as well as the benefits and economic gain obtained from the application of the use of technology. Miranda, (2015) [34] affirms that the competitive advantage is one of the most studied topics in the field of strategic management, and cites Teece, Pisano and Shuen (1997) [35], which explains how the combination of skills and resources can be developed by employees and oriented to achievement of competitive advantage.

The Acquisition and implementation of technology in organizations generate a positive influence, because it allows its members to develop communication skills.

The introduction of technologies in organizations allows developing new strategies that increase competitiveness.

In conclusion, the acquisition and implementation of technology has a positive influence on the organizations that allow them to stay within the market.

The analysis of information about the influence and benefits of technology as a strategy in organizations will serve as a framework for conducting deeper theoretical and empirical studies on the specific relationships between economic benefits and technology.

- 1) Identify the level of technological management in organizations and consider the characteristics of the organization in which the study will be conducted.
- 2) Clearly identify the dimensions of technology adoption capacity.
- 3) Apply measurements to each variable.
- 4) Apply qualitative methodologies in the case study.

In summary, the document is an important contribution that presents an extensive review of specialized bibliography.

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