# MANAGERIAL SIMULATORS AS SIGNIFICANT LEARNING TOOLS

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**SCHOOL OF HUMANITIES**

**MODERN LANGUAGES PROGRAM**

**BOGOTÁ D.C**

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**RESEARCH REPORT**

**ALEXIS GARCÍA ARDILA**

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## ABSTRACT

Managerial simulators promote an active learning in several scenarios that recreate real situations where business areas as management, finance, human resources and marketing are involved. In addition, strategic decisions are integrated as an important basis for decision making .With these simulators, individuals are in a constant process of learning and practice in a dynamic context, developing entrepreneurial skills learned.

The present work is focused on research and analysis of the Tycoon or management simulators AIRPORT and CEME as effective and dynamic tools for the applicability of knowledge in the areas of business, which are intended to be an innovative model of learning in the educational context. This analysis is carried out through qualitative research, which is developed with data collection instruments as the coding frame and the survey, where participants build an opinion about these games.



KEY WORDS: management simulators, dynamic learning, business areas.

# 1. INTRODUCTION

Currently, due to the Information and Communication Technologies (ICT) and its impact on the way the XXI century individuals access to knowledge and develop new ways of learning, which have become tools of training and entertainment, there have had changes in the way knowledge is acquired. A clear case of this, it's the virtual learning platforms and virtual environments in education. These have allowed that the teaching and learning ways of individuals changed in recent years. The new teaching methods have had a major impact on society, rapidly becoming one of the tools of training at company level education with special emphasis on universities. An example of the aforementioned is the application of managerial games as a teaching tool in programs of Directors, considering the theoretical aspect and empirical evidence. These new teaching tools are known as managerial simulators.

Managerial simulators have had a great development in recent years, thanks to the growing use of digital tools, which can be viewed how similar situations are recreated to reality, in order to the students can also have fun, develop their entrepreneurial skills and thus strengthen their learning, where risks and consequences of a practice in a real scenario will not run. Therefore, in this document will be analyzed different skills that a player of managerial simulators AIRPORT and CEME can develop.

The information technologies applied on education and working environment have created new spaces of learning where the user can practice their knowledge, likewise the teachers need different tools that allow to the students interact with elements, where they can pretend a real situation that helps them to development the competences achieved during their degree. With the use of several computer and technological resources the students can identify and

development management abilities and reduce the possible risks that could be appear in a real environment.

With the appearance of this technologies, the students acquire more abilities in the use of tools which they interact in different scenes and areas with the applicability of the management simulators the participant enrich and strengthen their own capacities interacting in situations similar to the reality in the companies.

This analysis it is to identify what are the business skills that are evident in management simulators: CEME and AIRPORT.

According to the above, the following questions are posed:

**Which entrepreneurial skills can develop and implement the user with the use of simulators CEME and AIRPORT?**

## 1.1 OBJECTIVES

### 1.1.1 General Objective

- To analyze what are the business skills that can be apply a user with the use of a Managerial Simulator (Tycoons).

### 1.2.1 Specific Objectives

- To identify the four business areas (management, marketing, finance and human resources) in management simulators.

- To determine which are the main business elements on CEME and AIRPORT simulators

# 2. THEORETICAL FRAMEWORK

In this section will be found the theories, concepts and perceptions related with the analysis of the management simulators based on the following authors: Marc Prensky, Margarita Figueroa and Rogelio Ladrón de Guevara Cortes.

## 2.1 Background

The human being has always tried to simulate real situations, acting as in the past or operate at a certain stages or activities as at the present, and this has been applied into several areas, because the constant evolution and development of information technologies (IT) have allowed since early 80s the creation of computer simulation programs, that have served primarily for entertainment. We all know or have seen classic car simulators, flight, spacecraft, etc. The business area has not been the exception in the early 90's, and in the beginning of the XXI century has been a sharp rise of business simulators based computer (computer-based business simulators) define as a way of innovation to learning and teaching . Every time they are more comprehensive and sophisticated, increasingly including both variables internal and external, that influence business management and allow users to apply the knowledge acquired in theoretical programs and measure their skills in management decision making, administrative and financial; either against the same computer or against other adversaries. It should be noted at this point that computer simulations have now reached the area not only business, but also can find simulators that address areas such as sociology, politics, psychology, social events, city management, etc. .

A case of this type of simulator it is well known as The SIMS series, which are computer programs that simulate the life of a family, and in which the user can go driving it through various stages of life, making decisions that can affect the development of it, such as: where to

live, how many children to have, what kind of job to take, what kind of parents to be, the schools where their children study etc. In this series (SIMS) have developed several titles dealing with various aspects of psychological and social behavior of a human being and that way allow a person to see the effect it could have a pattern or type of behavior.

## 2.2 **Digital Natives**

New technologies create constant, necessary and useful changes in society which meet the needs of individuals moving in a more evolved environment. It's no secret that people are increasingly dependent on technological tools considered essential for daily living. An example of this is the Smartphones, I pods, tablets, laptops, etc. without forgetting the boom of social networks, websites and new applications. Along with these innovations, a special language that is part of learning new technology used or implemented by many individuals and professionals currently is handled. For this reason, it is important to understand and meet those who use it, in today's society.

The Digital Natives concept is defined as those born into an innate "new culture", permanent users of technologies with a consummate skill. This term is coined by Marc Prensky, who characterizes this group of young people as technophiles or those who feel an attraction for everything related to new technologies. Workplaces and student environments are focused differently because the multimedia information they capture or they absorb like images and videos is in a quick way.

Prensky (2001) reports that "the young people have spent their entire lives surrounded by and using computers, videogames, digital music players, video cams, cell phones, and all the other toys and tools of the digital age." In a more wide vision to Prensky, this new generation has

grown up immersed in new technologies, developed in a full environment of computer video games and all kinds of digital devices, making mobile telephony, Internet, e-mail and instant messaging the integral part of their lives and their technological reality.

A particular characteristic of this group undoubtedly is their ability to develop and make different things at once, which summing up in one word is: multitasking. An example of what is written above is confronting different communication channels, preferring graphic formats to text and hypertext access instead of linear.

The big and obvious technological changes today as mobile telephony, broadband internet, Wi-Fi, iPods and iPads, social networks, video games, etc., are indispensable tools for training and knowledge of the Digital Natives. Each individual understands and processes information in a particular way, because of the changes that the brains of young people have, who become someone different from their predecessors. Today, the youth are focused on what represents a valid concern to them such as music, movies, commercials, internet, television etc. and not in other activities like reading or the traditional study.

In the educational context, Digital Natives think that learning methods used by teachers are not obsolete but those who start a formation reject the effort and seriousness. Therefore, accustomed to traditional methods require time and will for them. Prensky says that "Digital Immigrants who are dedicated to teaching are using a" language "obsolete (the characteristic of the pre-digital age) to educate a generation that perfectly controls this “language ". This means that for Digital Natives is an unknown and incomprehensible language, difficult to understand and adapt it.

In summary, the Digital Natives are a phenomenon that covers all of a generation that grows steadily.

### 2.3 The simulation

At present the simulation is very used in different areas as medicine, management, army, sports and education among others. Hence, it can be seen that in some developed countries the simulation plays an important role in the processes of decision making and business management. In addition, the simulators are very easy to handle, since they are designed with graphic interfaces similar to a videogame, thereby making it easier its use. Such software are seeking placing the user in an environment that mimics reality, where they may face in similar situations and problems to develop in the business environment.

A simulator explores, manipulates and reproduces situations based on reality, for the user to acquire skills, competences and habits, which hardly be achieved with only handling of theory. When the players make use of simulators, they achieve a direct experience without altering phenomena of the surrounding or having to wait for these to happen.

According to Figueroa, Garcia, Quiroga, Reaño and Sainz (2011) "In education the simulators have become necessary to offer students a medium of experimentation where they can reinforce their capacity of observation, analysis and decision making. They are presented as an interactive and dynamic environment that gives them the opportunity to recreate complex scenarios of nature and they can apply theoretical knowledge, understand concepts and procedures, study them and make them aware of the results (whether positive or negative) and how can they affect the environment".

Therefore for teachers, the simulators are great allies, because they may motivate students, bringing them closer to a reality, and helping to acquire the skills needed to cope with different situations in any area, instead of just suppose them. In addition, when they use simulators for training of different educative areas, decrease the costs of a true experimentation.

### 2.4 Management simulator (Tycoon)

The term to designate a tycoon game is where you should direct any type of business or organization, and the goal is to become a business Tycoon .You can see and infer that the management of a business neither is easy, and the situations you may face a professional in this area, are not easy and involve many risks that can become financial losses for a company or for heritage of their owners

The management simulators are games designed to develop abilities for decision making with the observation and interacting moreover .The graphics can represent the real conditions, and the user could have the opportunity to calculate what would happen with the consequences of the changes or movements. In the original context or situation, the simulator cannot have an experience but they can offer something similar to the user in where the player has a motivation and competitive elements that create a compromise game.

In order to get the best company development is necessary to take into account the next four fundamental components:

### 2.5 Management

According to Theo Haimann (1978) “Management is an individual or a group of individuals that accept responsibilities to run an organization. They plan, direct and control all the

essential activities of the corporation. Management does not do the work themselves. They motivate others to do the work and coordinate all the work for achieving the objectives of the company".

## 2.6 Human Resources

The human resources are the fundamental part of a company, they are responsible of managing, hiring, developing, training and firing the company staff, According to Wayner and Davis (2000) Human resources "is the process of helping employees to achieve a level of performance and quality of personal and social behavior that involve your needs and of their organization". On the other hand, the human resources are the people who develop and execute the work in search the fulfillment of the objectives in the organization.

## 2.7 Financial management

According to John Bradley (1998) "Financial Management is the area of business management devoted to a judicious use of capital and a careful selection of sources of capital in order to enable a business firm to move in the direction of reaching its goals"

## 2.8 Marketing

Marketing plays a great and important role in the company because it allows social and administrative process, through individuals and groups obtain what they want by generating offer and exchange value products with others. It is a tool that every entrepreneur should know and use to design, distribute or sell a product. With marketing, is achieved an appropriate product, at the right time, adapted to demand, with the price fairer. Philip Kotler (2001) says: "the key to achieving organizational goals is to determine the needs and wants of target markets and

delivering the desired satisfactions more effectively and efficiently than competitor's manner." (pag.9). The customer needs are met properly when a product complies with the requirements of demand, and when it has an added value for the customer is satisfied, developing brand loyalty and prioritize product over competitors. Kotler argues that today marketing has focused elements and values to the product that are strengthened at all levels for example with consumers and also with investors, employees, dealers, suppliers and everyone who is part of the team, in order to create a win-win relation.

# 3. METHODOLOGY

In the next chapter, it will be explained the research method used to the analysis, the techniques or data collection instruments, the participants and the context to direct the objectives and give them its respective process into the document.

Table No 1 *Methodology Design*

| | |
|---|---|
| **Investigation method** | Qualitative |
| **Type of study** | Descriptive |
| **Data collection technique** | Survey and coding frame |
| **Collection time** | 1 monht |
| **Participants** | 5 users between 20 to 30 years |
| **Context** | Students and professionals in the areas of engineering, business administration, advertising and media |

## 3.1 Investigation Method

In this analysis is take into account a qualitative investigation according to Rodriguez, Gil, Garcia (1996) Investigation Qualitative Methodology "study the reality in its natural context as the way it works, trying take sense of, or perform the phenomenon according to the meaning that have the people involve. The qualitative investigation suppose the utilization and the collection of different materials, interviews, personal experience, life stories, observations, history texts, images, sound that describes the routine and the problematic situations and the

meanings in the life of people" as a result it can obtain information about the abilities that can develop a user or player with the use of management simulators.

The results will be analyzed with the application of the survey and the coding frame to the objective public.

### 3.2 Type of study

It is considered that this research type is descriptive, because for the determination of the skills acquired by a user of the Tycoon, were registered and used the data as it reported the participants, and them describe them and analyze them reliably.

According to Grajales (2000, p. 2) explains that "Descriptive research, actually works on realities and its main characteristic is to present a correct interpretation. This research may include the following types of studies: surveys, case, Exploration, Causal, developmental, Predictive, ensembles, correlation". Similarly Sabino (1996, p. 60) says "its primary concern is to describe some basic characteristics of homogeneous sets of phenomena, using systematic criteria to highlight its structure or behavior. In this way, you can get systematic information about them"

The collection techniques that were used in this analysis were mainly the survey and the coding frame, which were used to collect important information for the analysis of the investigation; these techniques were about open and writing questions that answer the participants.

The previously mentioned techniques allow gather and evaluate data, in a truthful and opportune about the perception or suggestions to the objective public in relation to the

management simulators in order to accomplish with objective of this analysis. On the other hand, this method afford an specify information to improve and determine the applicability of the management simulators with the five participants, who will have contact with the simulators during a week, afterwards will start with a survey (research technique that has a verbal or writing interrogation that makes the people in order to get specific information to the research). The objective of this survey is detect the perceptions of the participants about the use of simulators, then will be apply to the same five participants a coding frame to demonstrate the management abilities that can develop the user.

The coding frame is a tool for managing internal and external elements that are usually visual or graphical representations that highlight the most important factors to select the most appropriate strategy based on the objectives set, the circumstances of the environment and resources and capabilities of the company. These matrices are generally characterized by a combination of internal factors of the organization with external factors belonging to the sector or industry where it takes place. The coding frame has the function to diagnose and it should not be regarded as a decision criterion because the information, on which it is built, is partial, limited and subjective.

### 3.3 Participants

The five participants involved in the analysis are students and professionals (men and women) between 20 and 30 years of age in the areas of engineering, business administration, advertising and media. This profile was chosen because they are people who are looking for professional growth and they have the possibility to be employed in a management position or start their own business.

# 4. ANALYSIS OF RESULTS

## 4.1 Survey and Coding Frame

To identify the outlook and the perceptions of the participants regarding the knowledge and the use of the management simulators a survey of seven open questions was made giving the following effects:

The participants that were interviewed believe that the CEME and AIRPORT simulators are good tools to improve the competences and abilities in the management field. Besides, they said that the simulators are interesting because with the small steps it can reach a good development of the game. It can accomplish the objectives and practice some knowledge getting about the managing a business. However, they thought that AIRPORT simulator does not create a difficulty for decision making and suggest that it should take into account more aspects to make the simulator more attractive. On the other hand, they considered the CEME simulator has a better performance because it has the enough tools where the user can make an analysis of the best alternatives to bring to the process.

Furthermore the 80% percent of the five participants interviewed would advise the use of the simulators because they think that these games are easy to manage and also it helps to evaluate the management aptitudes of a player

The simulators are useful to detect possible failures at the moment to manage resources or quickly decision making, of this 80% percent the 40% percent proposed the use of simulator CEME due to it could help to the learning in undertaking and business plans topic. In addition, it is entertaining and allows a feedback monthly in order to fix the mistakes. The 20% of the other

participants do not suggested any simulator they believe that there are more didactic and attractive games which created a high administrative challenge

The 100% percent of the participants said that CEME and AIRPORT are an effective method to learning the applicability of the educative knowledge, because of games are a great tool to practice management aptitudes and have the objective to reach the goals in the best way, Moreover it helps the user to create a perspective thinking which it is necessary in the making decisions, show a panorama of how is manage the business in the field like, maintenance control, competence, resources human hire, unexpected maintenance and also can be visualize the need to accomplish the demand of the costumers.

The 60% percent of the interviewee prefer a dynamic process of learning like the simulators, because they believe that it allow them practice in a controlled scenario, the knowledge acquire with this they can obtain quickly and effective results and it cause more interest. The 40% percent of the user said that are important the learning methods because it is necessary have the previous knowledge of the concepts to make the proper use of the simulators.

Between the elements that stand out the participants of the simulators, will be found the parts of the product cost in individual form, the monthly graphics of the statistics,
the environmental and economic elements to making decisions, the possibility to determine the satisfaction of the costumer, maintenance control, profits, quality measuring, bank credits, quickly making decision, manage resources, market research, ease of management and teaching aids.

Additionally, the players said that are necessary more movements in the graphics, because it will be boring in some minutes, both simulators require changes in the demand and offer which are indispensables to learn for making decisions.

In relation to the simulator AIRPORT the participants have particular appreciations: they consider that it is more a children game that a management simulator. For CEME the users will be adapt interfaces in order to fix decisions about the progress and does not have to create a new round since the beginning and also the possibility to increase the business.

## 5. CODING FRAME OF AIRPORT AND CEME

Once the survey was made, the group of participants was request to answer the coding frame of the CEME and AIRPORT simulators in order to identify the applicability of the four business areas according to their opinions.

Table No. 2 *Airport´s Coding Frame*

| ASPECTS | YES | NO | HOW? | OPINIONS AND SUGGESTIONS |
|---|---|---|---|---|
| **Financial strategic decisions** | 1 | 4 | Analyzing the demand of passengers at each stop | It should has greater control of costs and potential revenue ,not used to making such decisions management. They are just ordinary administrative decisions |
| **Income and expenses** | 3 | 2 | The player always has a bag of money available to determine how to invest, with income counter in the Statistics Bar | |
| **Company resources** | 4 | 1 | It has variety of elements which can be acquire by the player, can manage two planes according to the demand | |
| **Selection and recruiment** | | 5 | | There is not necesity two aircraft are handled without having to manage staff |
| **Profiles and positions of the employees** | | 5 | | There is not necesity two aircraft are handled without having to manage staff |
| **Benefits or recognigtion for employees** | | 5 | | There is not necesity two aircraft are handled without having to manage staff |
| **Decision making** | 4 | 1 | You can change routes, compare improvements - specific challenges must be met to achieve the goals | |
| **Direction or coordination of activities** | 4 | 1 | The player always has the control of the activities | You should study well the demand for put to work the aircraft in the best way |
| **Control or monitoring of activities** | 3 | 2 | The player always has the control of the activities | |
| **Customer needs** | 3 | 2 | You can graphically determine the level of costumer satisfaction, you can show whether the customer is happy with the service or | |
| **Competition** | 2 | 3 | | It could include other aircraft not handled by one to demonstrate competence |
| **Advertising, price and sale place of the product** | 1 | 4 | | There is not competence that´s why there is not necesity to manage publicity ,price and others |

## 5.1 Airport Analysis

Within the financial part will be found that the 80% percent of the participants detect that they can making strategic decisions**,** the 20% percent consider that if a 60% percent believe that they can determine the income and the maintenance and the other 40% percent though that it does not possible. Finally the 80% said that they can control the resources and the 20% percent are no agreeing with that appreciation**.**

The 100% percent of the players were agreeing that the human resources area does not exist in the game.

In the administrative part it could identify that the 80% percent of the users can making decisions according to the establish objectives and show that it can have a commanding position to direct and coordinate, the other 20% percent though that it is not possible. On the other hand the 60% percent of the players believe that they can control and monitoring the activities made but the 40% said that it can be possible.

In the marketing part the 60% of the participant consider that it satisfy in a proper way the customer's needs, the 40% of the players consider that it cannot be possible, regarding to the competence. A 40% consider that there is competence market in the simulator, the other 60% does not agree, finally the 80% of the players evaluate that does not exist in the game the publicity for the product but the 20% said that it exist in the simulator.

Table No. 3 *Ceme´s Coding Frame*

| ASPECTS | YES | NO | HOW? | OPINIONS AND SUGGESTIONS |
|---|---|---|---|---|
| **Financial strategic decisions** | 4 | 1 | The expenses can be reduced, change the value of the product-managing the budget-Seeing the statistics month by month | Variability in the scenarios for decision making |
| **Income and expenses** | 5 | | Month by month is determined by graphical statistics the expenses and income-The icons let you define the amounts-Seeing the statistics month by month- In the Statistics Bar | |
| **Company resources** | 4 | 1 | Can be determined the total income, raw materials for the month, human resource available-the icons allow to define the amounts-sales strategy may vary according to demand and profitability | You can only make a decision: to enter in the market by price or to enter in the market by quality.There would not be a management decision. It is more execution of the strategy set |
| **Selection and recruiment** | 5 | | You can choose between various staff profiles- it is selected who is going to be hire- It is necessary to choose at least one seller-With the hiring button | |
| **Profiles and positions of the employees** | 5 | | It is determined depending on his/her level of expertise and for this reason it is his/her salary- A specific profile is no evidence for the charge-analyze what is more important if the experience or salary to be paid-When hiring staff must be given a charge | |
| **Benefits or recognigtion for employees** | | 5 | | It Could have promotions or salary increases to be able to measure quality and comfort-The employee always earns the same no matter whether if you're right or wrong |
| **Decision making** | 5 | | You can fire and hiring staff , lower or raise product quality, do locative improvements, etc.-It is the main thing you can do, determine what variables may allow us to achieve the objective-Sales strategy may vary according to demand and profitability-Yes with the production management and product sales price | |
| **Direction or coordination of activities** | 4 | 1 | Always the player maintains control of the activities of the game-when you verify the statistics month by month you can analyze the market in order to achieve profitability required- | You can only make a decision: to enter in the market by price or to enter in the market by quality.There would not be a management decision. It is more execution of the strategy set |
| **Control or monitoring of activities** | 5 | | Month by month there are graphs, statistics that determine costs, profits, revenue, competecia quality-Seeing month by month statistics -Control activities | |
| **Customer needs** | 4 | 1 | The simulator pays attention to customer satisfaction and how in the business it is reflected-According to the statistics of the month you can see the satisfaction that customers have | You can only make a decision: to enter in the market by price or to enter in the market by quality.There would not be a management decision. It is more execution of the strategy set |
| **Competition** | 4 | 1 | Can be determined behavior based on competition-Seeing the statistics month by month | You can only make a decision: to enter in the market by price or to enter in the market by quality.There would |
| **Advertising, price and sale place of the product** | 5 | | It is possible to purchase different types of advertising, radio, flyers, etc.-If the local is chosen, what advertising is going to hire etc.-It is defined one initial but it can vary depending on the profitability and business strategies-item advertising | |

## 5.2 CEME Analysis

In the financial part will be found that an 80% said that it is possible making strategic decision into the simulator but the 20% though that it is not possible. the 100% concur that in the simulator they can determine the income and the maintenance, lastly a 80% give their opinion

that the game allow take the control of the resources and the 20% were agree that it is no possible.

In the aspect of the human resources the 100% of the players find selection and hiring of personal also specific positions for each, however the same 100% are agree when they said that there is no evidence of any profit or recognition for the employees.

In the administrative area it could identified that the 100% of the participants could making decisions according to the objectives propose. the 80% noticed that they can take a manager position to direct and coordinate, while the 20% of the players consider that it is not possible in addition the 100% of the users believe that they can controlled and monitoring the activities made

Besides this in the marketing section a 80% of the interviewee said that in the simulator are satisfied the costumers needs but the 20% said that there is not, the 80% though that exist a competence into the game nevertheless the 20% said that not but the 100% of the participants admit that exist a publicity for the product into the simulator.

# 6. CONCLUSIONS

In the past, simulators were used as a form of training mainly in the aviation and military areas. Due to the impact on individuals and their relation to education began to design simulators in the education area. At present, the management simulators have become a teaching method used by teachers of different areas through which students and other users can apply and develop skills acquired during the training process. Moreover, it is a didactic learning method that prepares students for daily situation and where you can reduce possible risks, to be presented in a real context in the exercise of their profession.

It was evident in the analysis of the data compilation instruments used, analysis matrix CEME, AIRPORT and survey, that with the use of these management simulators the participants applied their knowledge management such as making strategic and financial decisions, directions and control of activities, critical thinking in making decisions, resource management and coverage of customer needs. Besides the players practice some lessons learned about managing a business, helping them improve competencies and skills in the management area

According to the results of the participants, it was found that the CEME simulator is more like a business context where the user has the opportunity to apply concepts and further develop management skills for decision-making in a real context. Furthermore the AIRPORT simulator is characterized as a dynamic game, which involves only some business structures such as: financial, administrative and marketing areas.

After the analysis of the survey the players considered that knowledge is only esteemed when is implemented and it achieved results. They recommend that the simulators were more attractive; demanding the user to develop skills to resolve complex situations in addition to

its graphical environment contains different movements so that the simulator does not become boring after time.

With the investigation report, it was stated that although the tycoons are dynamic learning tools that allow to practice in a controlled setting the knowledge acquired in business areas, is necessary and important traditional teaching method because learning is formed as fundamental basis to put it to the test with the managerial simulators. For players, the dynamic and traditional methods are good mutual complement for learning because the learned theory becomes a dynamic and enjoyable fictional scenario for students.

As a dynamic method of learning, CEME and AIRPORT management simulators allowed to create a connection with participants during the process of interaction. Some users described the Tycoons as entertaining and interesting games, making these attractive to them. This is a fundamental feature of the new generation of the digital era known as Digital Natives, who develop a taste for new technologies and video games. Besides, the participants of this project are in an age range between 20-30 years old, a singularity of this group of young technophiles who like the dynamic and innovative learning.

## 7. RECOMMENDATIONS

After the participants interacted with AIRPORT and CEME management simulators and then performing the respective analysis of the results emerged the following projections or recommendations:

It is necessary a complement between form and content of the simulator. Sometimes a game becomes tedious when the player does not find elements that appeal to his or her taste such as: programming, illustration, interface, modeling and animation and sound. Each of these components, can properly develop a good simulator, and create a connection to the participant. It is important to say that the content is essential but it must be included in a dynamic way to avoid the monotonous, especially the managerial simulators because its entrepreneurial theme is sometimes complex and extensive. It is recommended that each business area is included in a dynamic, easy and understandable way for the player is not apathetic to the game.

It would be appropriate that the simulators were developed in Spanish, French and German languages, not only in English because; entrepreneurial skills are learned in each one of these with their respective terms. In addition, these games would be an effective tool to improve and enhance the knowledge and the vocabulary. In the case of Spanish language, these games would be helpful to reinforce what they learned in management classes, always focused on dynamism.

It is recommended that management simulators are included in the business and administration classes as part of the thematic working during the semester. Students of modern languages will find this form of learning as something innovative and striking. If the simulator is developed as a free option for people play when they want, probably few individuals have the

time and willingness to know it and play it. However if the game is included in the classes, students will engage more with the simulator and can put into practice what they learned in the business area.

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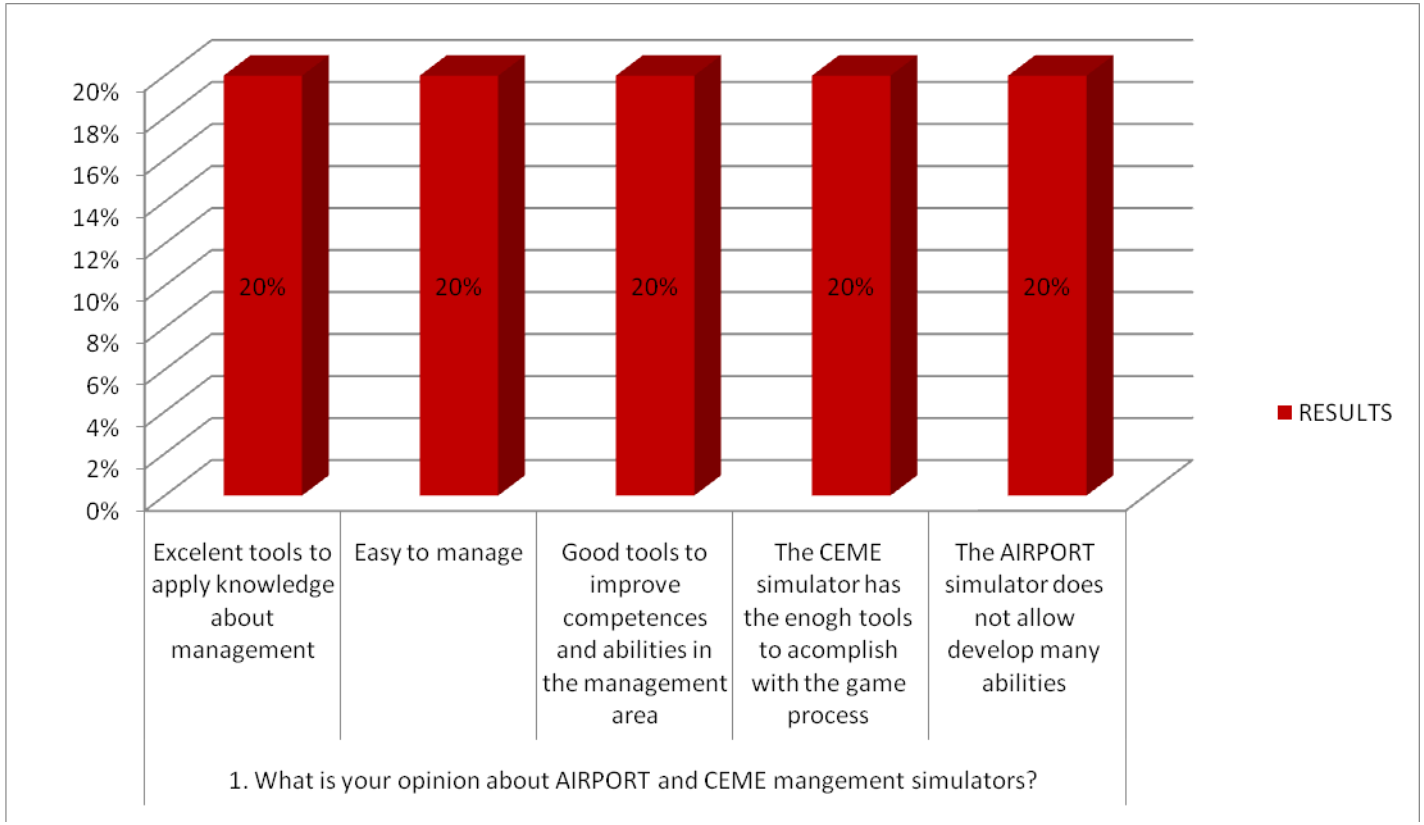
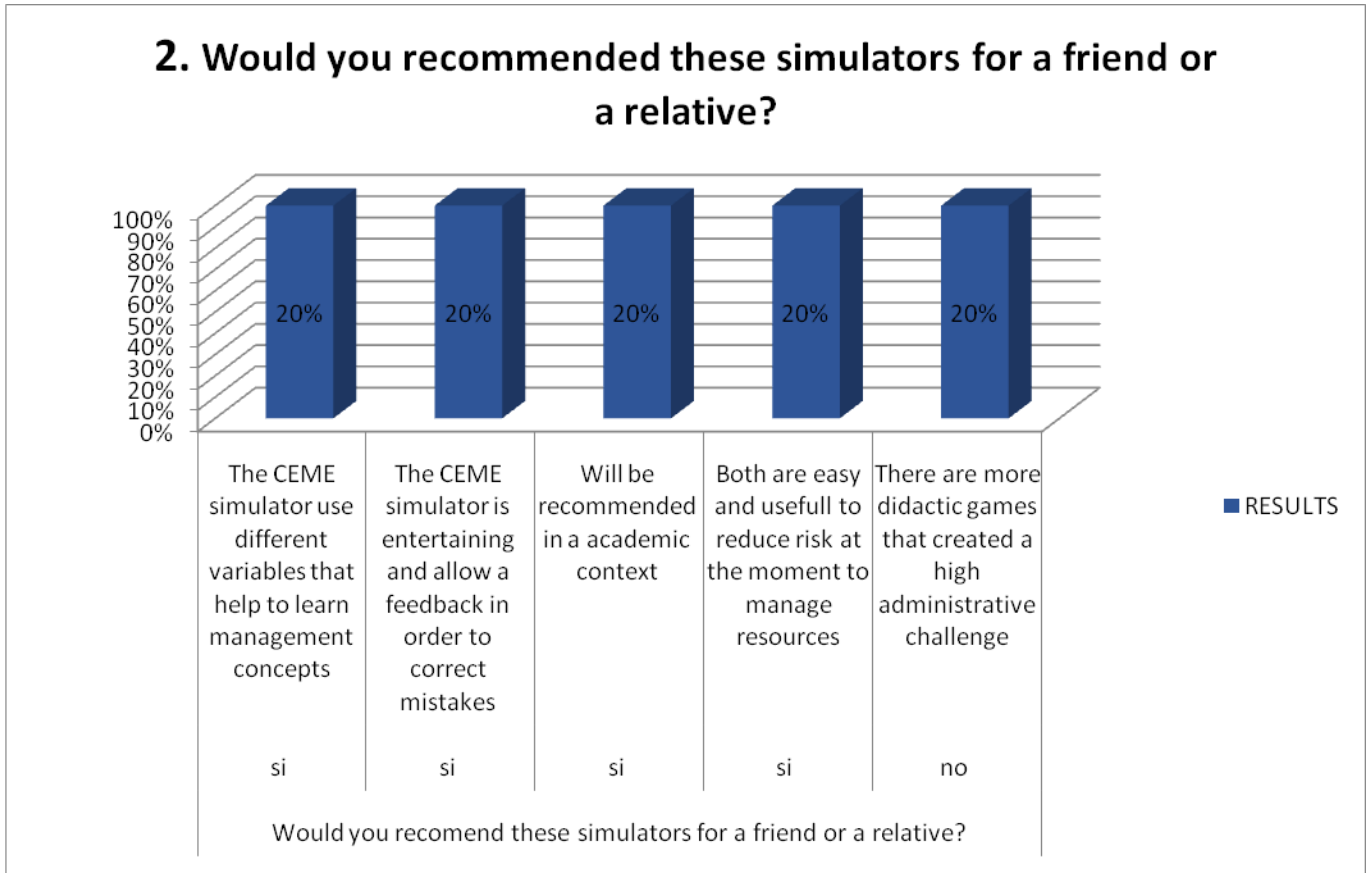
# 9. APPENDIX

**AIRPORT and CEME survey analysis results.**

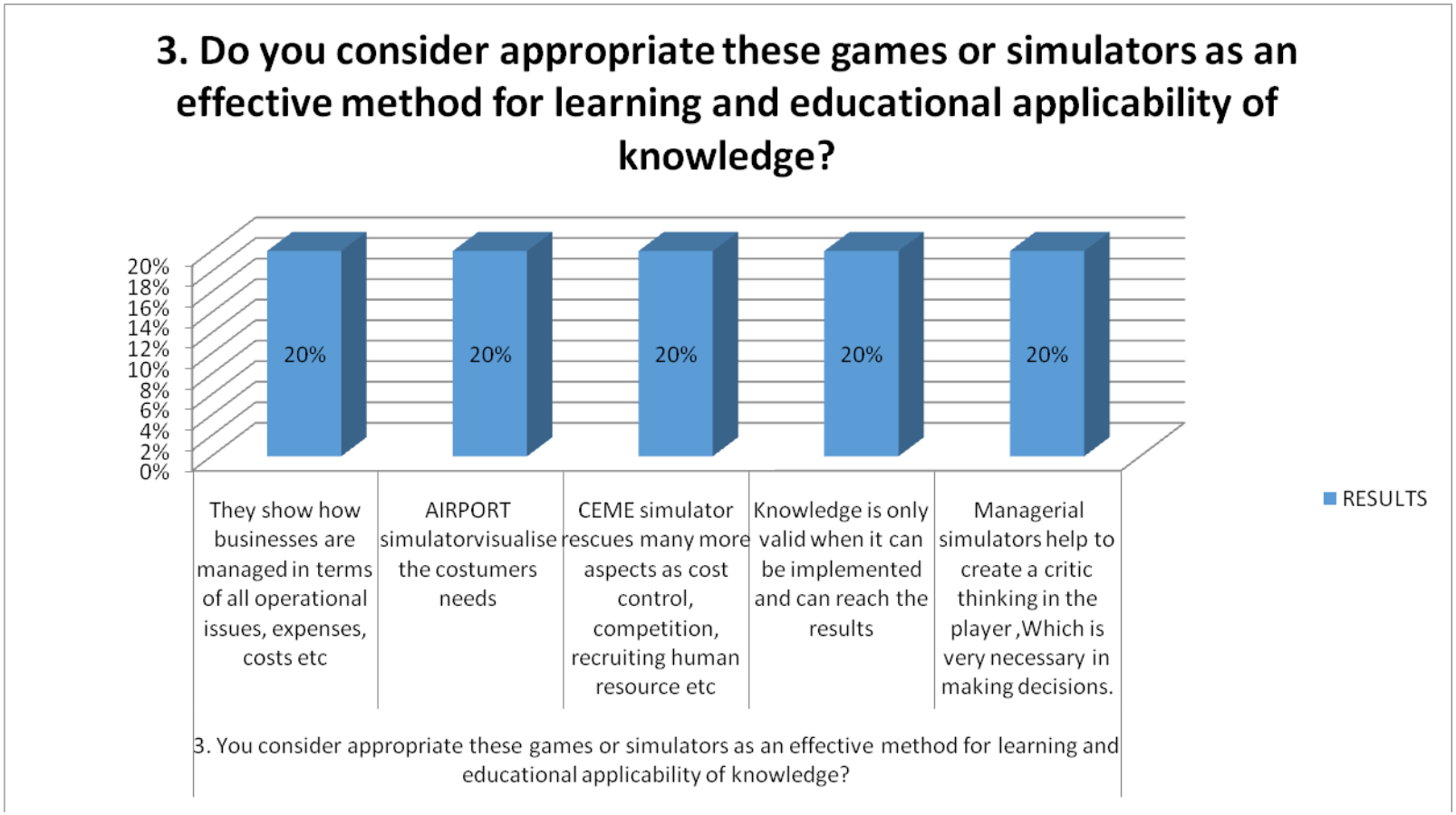
Graphic No. 1 *Opinion about CEME and AIRPORT simulators*



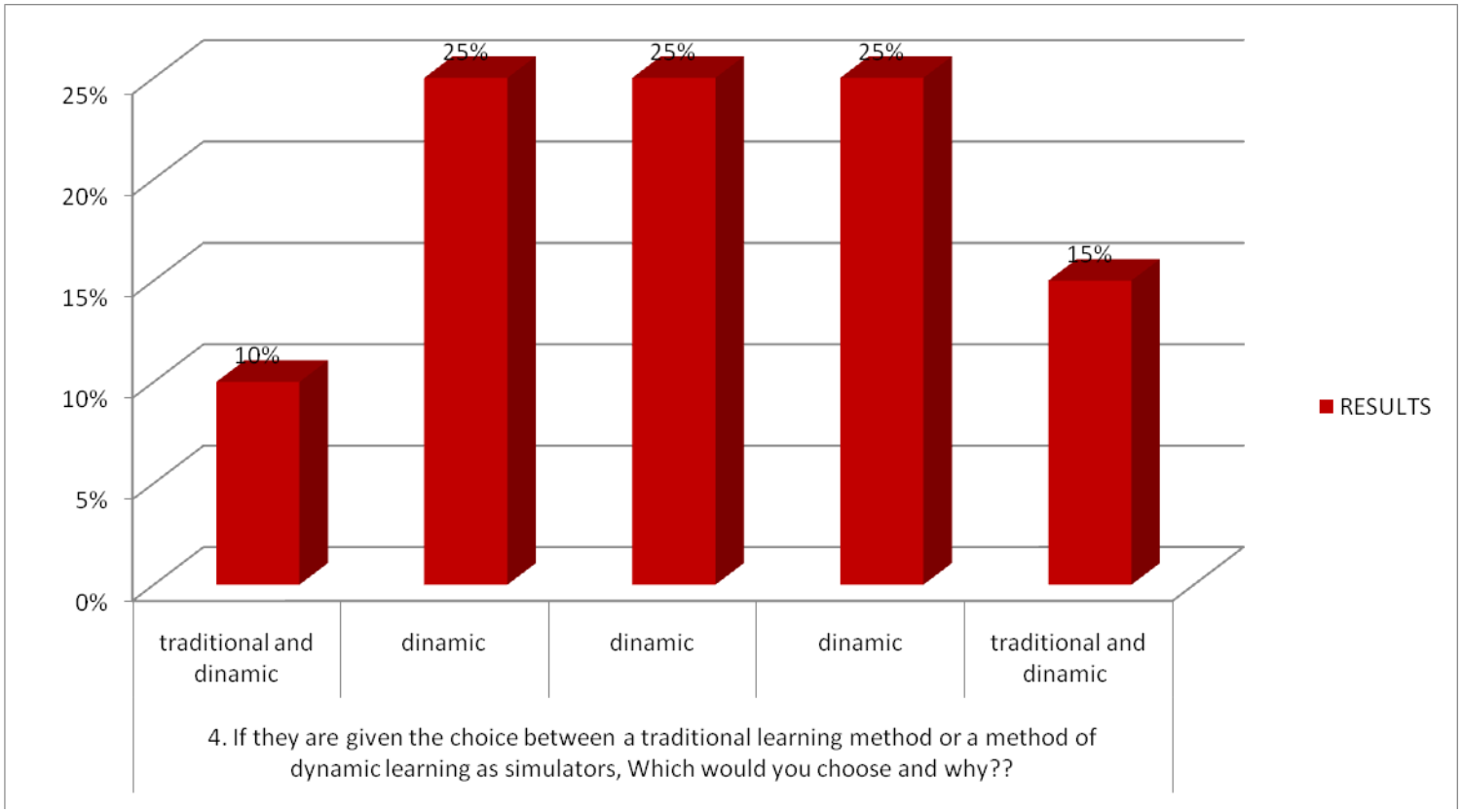
Graphic No.2


2. Would you recommended these simulators for a friend or a relative?
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
20%
20%
20%
20%
20%
The CEME simulator use different variables that help to learn management concepts
The CEME simulator is entertaining and allow a feedback in order to correct mistakes
Will be recommended in a academic context
Both are easy and usefull to reduce risk at the moment to manage resources
There are more didactic games that created a high administrative challenge
si
si
si
si
no
Would you recomend these simulators for a friend or a relative?
RESULTS

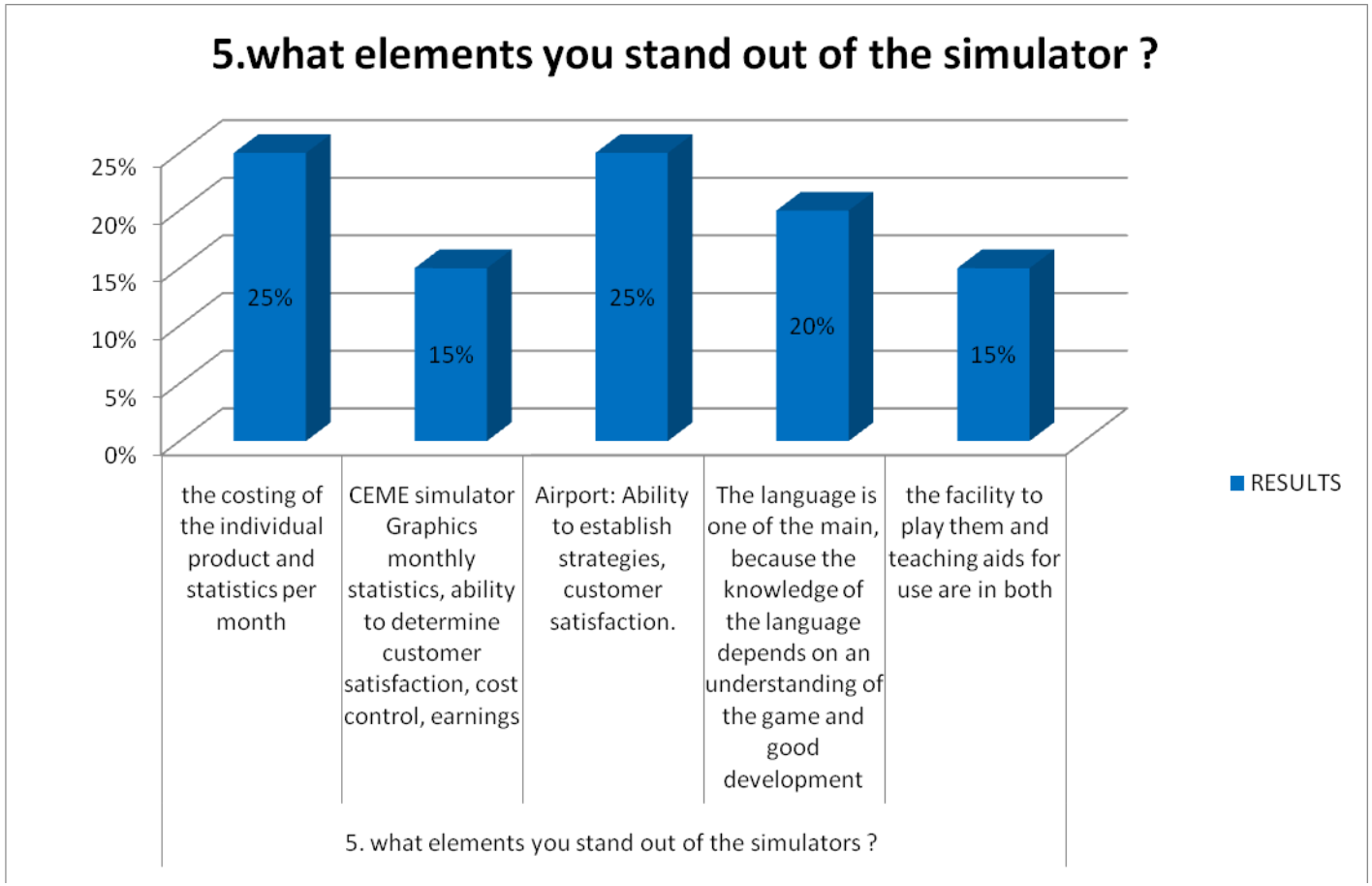
Graphic No. 3


3. Do you consider appropriate these games or simulators as an effective method for learning and educational applicability of knowledge?
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
20%
20%
20%
20%
20%
They show how businesses are managed in terms of all operational issues, expenses, costs etc
AIRPORT simulatorvisualise the costumers needs
CEME simulator rescues many more aspects as cost control, competition, recruiting human resource etc
Knowledge is only valid when it can be implemented and can reach the results
Managerial simulators help to create a critic thinking in the player ,Which is very necessary in making decisions.
RESULTS
3. You consider appropriate these games or simulators as an effective method for learning and educational applicability of knowledge?

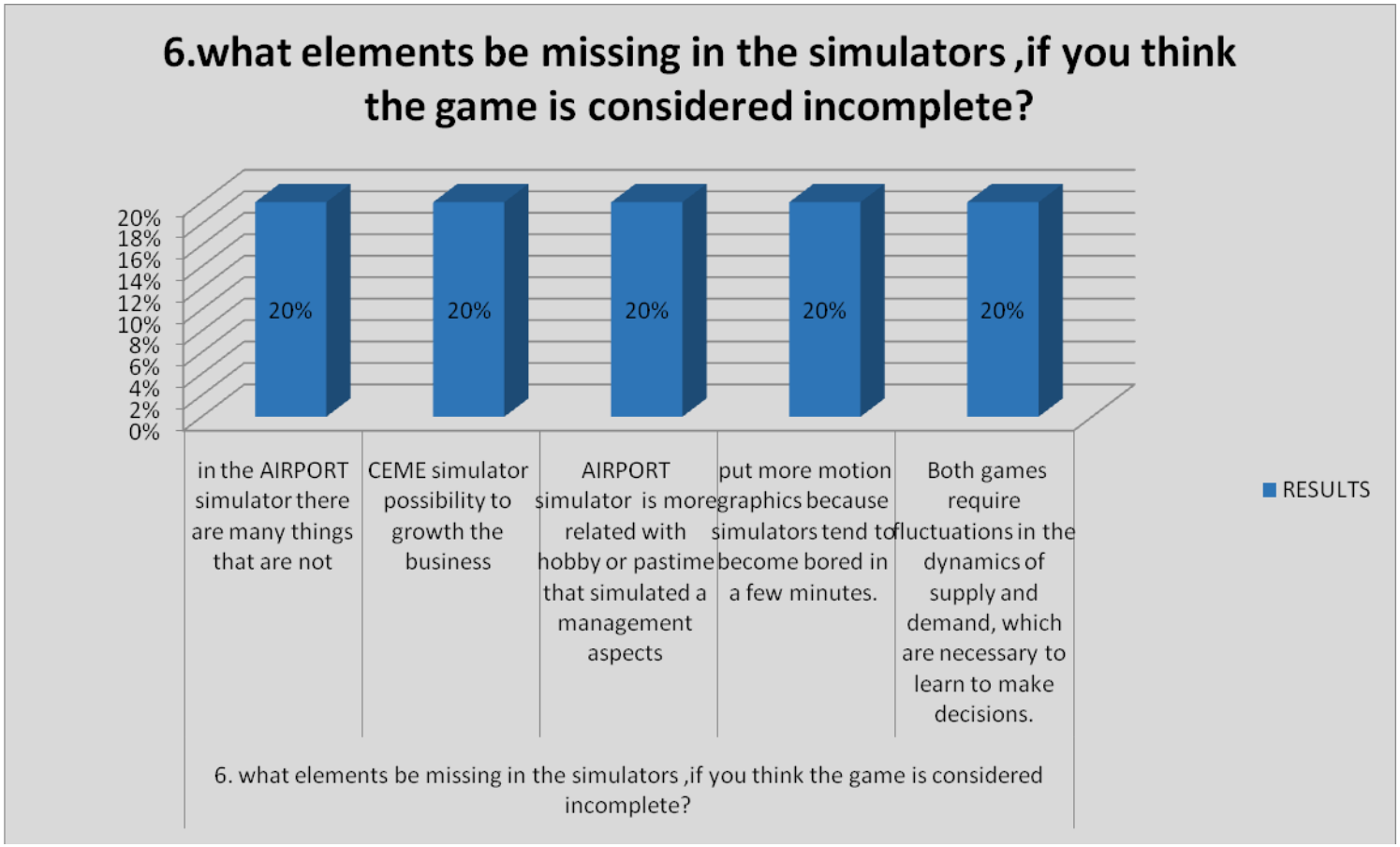
Graphic No.4


25%
20%
15%
10%
5%
0%
10%
25%
25%
25%
15%
RESULTS
traditional and dinamic
dinamic
dinamic
dinamic
traditional and dinamic
4. If they are given the choice between a traditional learning method or a method of dynamic learning as simulators, Which would you choose and why??

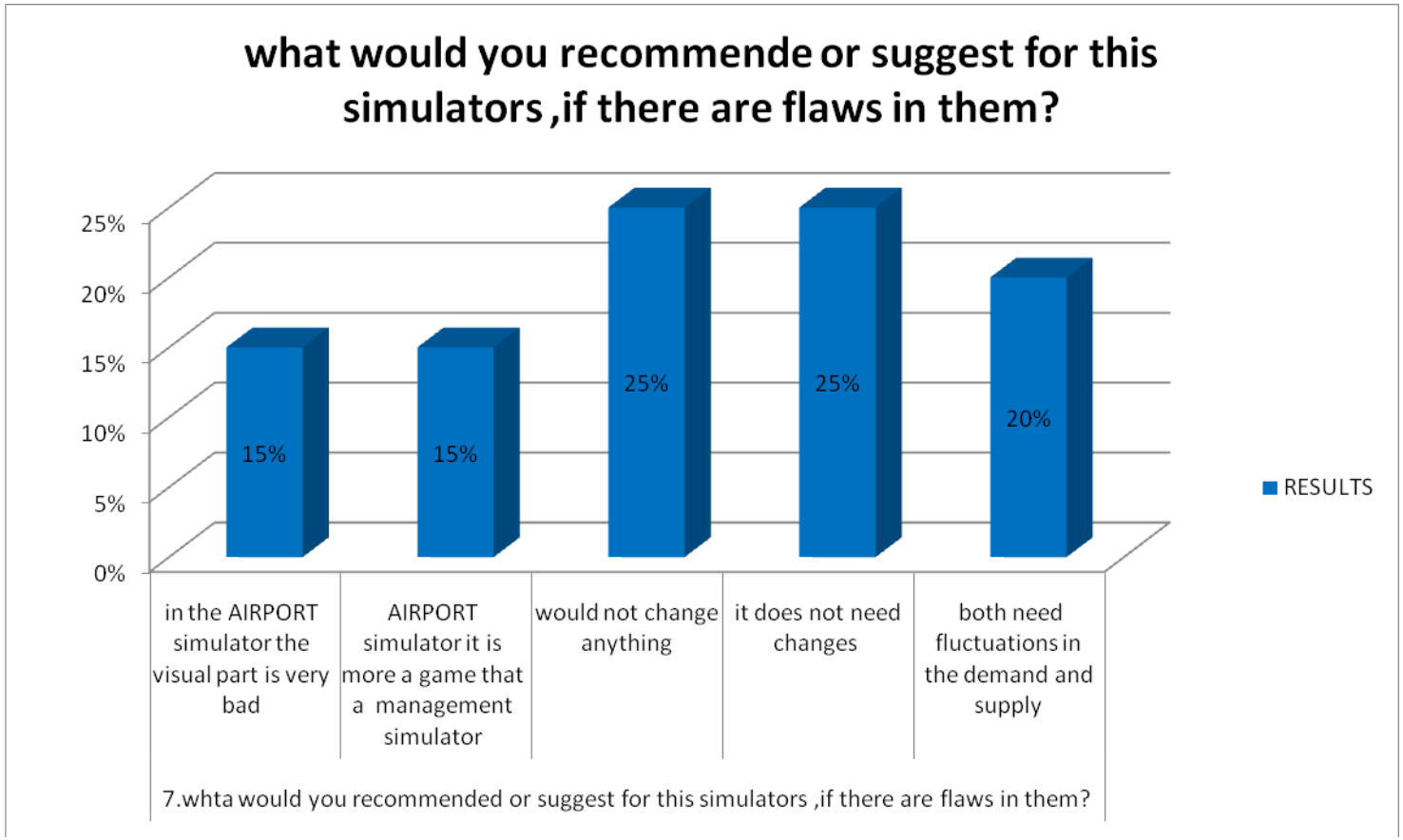
Graphic No. 5


5.what elements you stand out of the simulator ?
25%
20%
15%
10%
5%
0%
25%
15%
25%
20%
15%
the costing of the individual product and statistics per month
CEME simulator Graphics monthly statistics, ability to determine customer satisfaction, cost control, earnings
Airport: Ability to establish strategies, customer satisfaction.
The language is one of the main, because the knowledge of the language depends on an understanding of the game and good development
the facility to play them and teaching aids for use are in both
RESULTS
5. what elements you stand out of the simulators ?

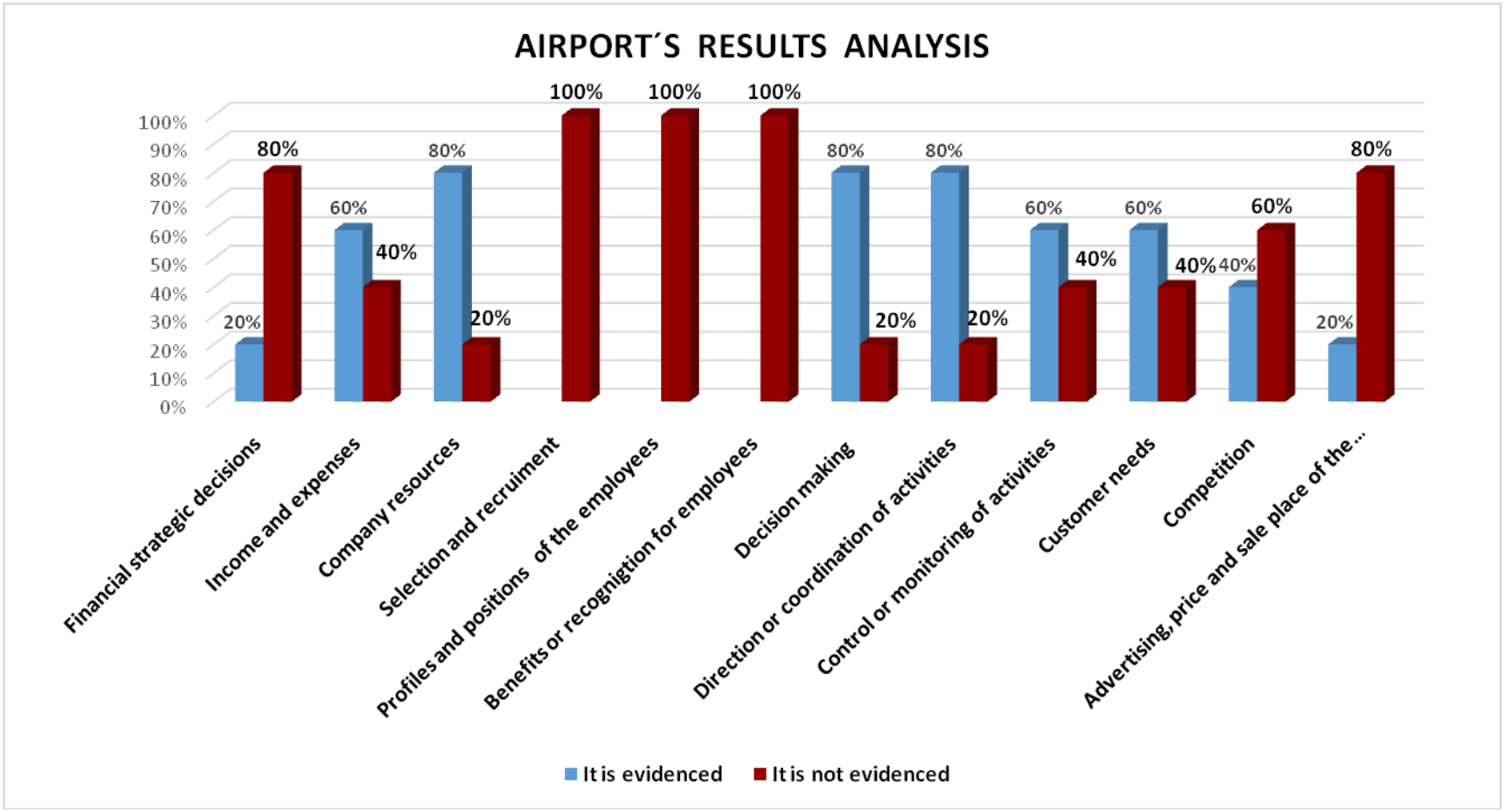
Graphic No .6


6.what elements be missing in the simulators ,if you think the game is considered incomplete?
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
20%
20%
20%
20%
20%
in the AIRPORT simulator there are many things that are not
CEME simulator possibility to growth the business
AIRPORT simulator is more related with hobby or pastime that simulated a management aspects
put more motion graphics because simulators tend to become bored in a few minutes.
Both games require fluctuations in the dynamics of supply and demand, which are necessary to learn to make decisions.
RESULTS
6. what elements be missing in the simulators ,if you think the game is considered incomplete?

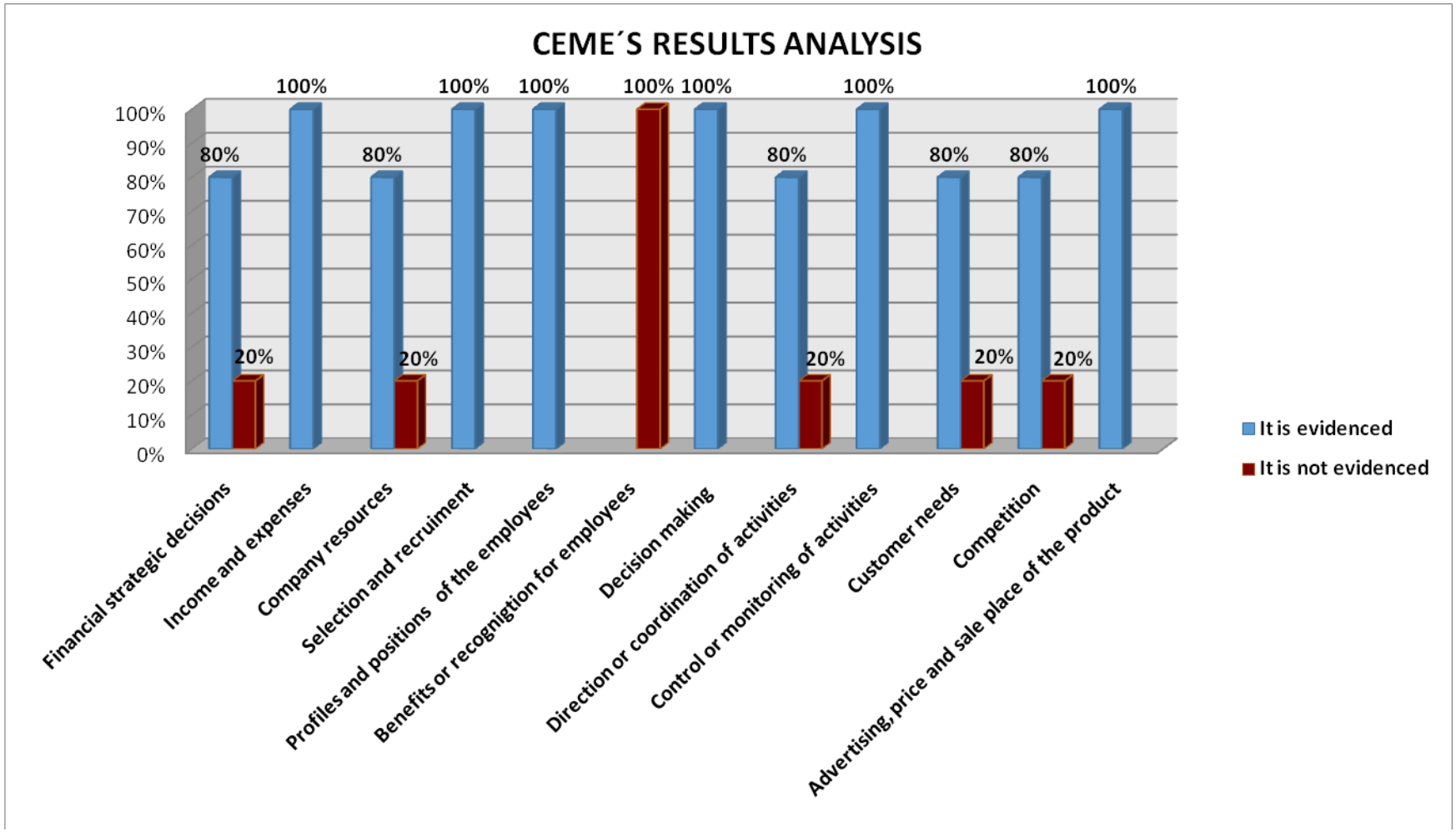
Graphic No.7


what would you recommende or suggest for this simulators ,if there are flaws in them?
25%
20%
15%
10%
5%
0%
15%
15%
25%
25%
20%
RESULTS
in the AIRPORT simulator the visual part is very bad
AIRPORT simulator it is more a game that a management simulator
would not change anything
it does not need changes
both need fluctuations in the demand and supply
7.whta would you recommended or suggest for this simulators ,if there are flaws in them?

Graphic No 8 *Airport's coding frame analysis results*



Graphic No 9 *Ceme's coding frame analysis results*



Graphic No 10 *Model of Survey*

**MANAGERIAL SIMULATORS SURVEY**

1. What is your opinion about **AIRPORT** and **CEME** management simulators?

A) Yes B) No

¿How?

_____
_____

2. Would you recommend these simulators for a friend or a relative?

_____
_____

3. Do you consider appropriate these games or simulators as an effective method for learning and educational applicability of knowledge?

A) Yes B) No

If your answer is yes explain why?

_____
_____

4. If you had the option to choose between a traditional learning method or a dynamic learning method as the simulators, which would you choose and why?

A) Yes B) No

¿Which?

_____
_____

5. What elements you stand out of the simulators?

_____
_____

6. What elements be missing in the simulators, if you think the game is considered incomplete?

_____
_____

7. What would you recommended or suggest for this simulators, if there are flaws in them?

_____
_____