EVOLUTION AND TRENDS OF INFORMATION SYSTEMS FOR BUSINESS MANAGEMENT: THE M-BUSINESS. A REVIEW

EVOLUCIÓN Y TENDENCIAS DE LOS SISTEMAS DE INFORMACIÓN PARA LA GESTIÓN EN LA EMPRESA: EL M-BUSINESS

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ABSTRACT: This article makes a review from the origin to currently of information systems for business management. It is specially emphasized about the changes that have occurred in recent years in such kind of systems and in what are the trends for the coming future. Between this trends it is possible identify several technical advances and new functionalities that are being joined or that will be soon. For example, a new functionality or advance that is incorporating is the m-commerce, which not only can influence the information system in a high degree but also in the strategies and management activities of currently companies.

KEYWORDS: Information systems for management, m-commerce, m-business, ERP, Trends.

RESUMEN: En este artículo se revisa la evolución de los sistemas de información para la gestión de empresas, desde su aparición hasta la época actual. Se hace especial hincapié en los cambios que se han producido en los últimos tiempos en este tipo de sistemas, y las tendencias que se prevé que seguirán en un futuro cercano. Entre estas tendencias de futuro, se pueden identificar diferentes avances técnicos, así como nuevas funcionalidades que se están incorporando, o lo harán en breve. Una de estas nuevas funcionalidades o avances a incorporar es el m-commerce, que puede influir en gran medida, no solo en los sistemas de información para la gestión, sino también en las estrategias y técnicas de gestión de empresas actuales.

PALABRAS CLAVE: Sistemas de información para la gestión, m-commerce, m-business, ERP, tendencias.

1. INTRODUCTION

Information systems for company management (ISFM) have been, and are a key factor in enterprise development. In its continue evolution it has gone from just a work tool to a competitiveand strategy element, even generating new business models based on its development.

This is why information systems for company management have been studied from several points of view, including its implementation and key factor that can affect it, , as well as

the effects that ISFM can produce in companies[1,2,3,4], comparison between different systems brands [5], or its evolution throughout time , [6, 7,8], among others.

On the other hand, it is possible to highlight that recently has occurred different, fast and important advances, both in technological and in policies and philosophies of management in companies. It has caused that ISFM must have to be adapted quickly to these advances, and recently it must be in a continuous of improvement process. For that reason the companies that develop this kind of systems have had to spend a big amount of resources in research and development and innovation

The current paper describes the actual moment of ISFM, technical and functional innovations, the implementation of such innovation and trends that could be followed for the coming years about these systems. Also, it is studied how m-commerce (A recent technological development without commercial exploitation) can affect the ISFM.

2. HISTORICAL EVOLUTION OF ISFM

2.1 From accountant management software to ERP (Enterprise Resource Planning)

Information systems have been incorporated in companies since the appeared of the first computer, as an important and strong tool to optimize and improve management activities. Their introduction has been progressively due to the systems evolution in each specific area and of course due to the technology availability over time. The first application of information systems in companies were made on 1960's in the accountant management area [9]. Accounting is clearly defined by laws and a rule that every company must follow, regardless their nature and sector it belongs to. That's why that the design and implementation of a software for accounting management is easier compared with others areas in companies since that the "requirements analysis" is made for the administration entities of every country and it is exactly the same for every company in such company. This is the way

of how the first information systems for company management appeared, which they were basically accounting software.

As soon as the accounting software appeared, there was the necessity of manage the administration area using formation systems too. So there were developed several information systems for that purpose, which could manage invoices, paying, collecting, etc. This way, such operations kept stored in the information system, what allow the later search or study, etc. even if the administrative area information system were integrated with the accounting and financial system it guaranteed a safe of working time, a productivity increasing and a reductions in costs and mistakes.

After that, the developing of software for companies concentrated efforts toward the research and development of stock management area, appearing systems as the ICS (inventory Control system). These systems allow the existing stock of every product at the warehouse, what are the consumption in different periods, and off course, their value, something really important for recent companies. One more time, the integration of these systems with the information application in the company (accounting and administration systems) was revealed as a very important factor in the process optimization.

As show in the works from the last decade [9,10, 11,12,13]; at the end of the 60's and at the beginning of 70's appeared the first MRP systems (Material Requirements planning). These systems emerge as the evolution of the ICS through the Hill of Material (BOM) utilization. The principal characteristic of the MRP systems is that they use a hierarchical approach for the inventory management, allowing basically the creation of the material plant from the following three fundamental elements:

- Productivity Master Plant (PMP)
- Bill of Materials (BOM)
- Inventory Data Base (IDB)

The MRP allows achieving outstanding advances, which could be highlighted the

inventory and process time reduction and the increasing of the supply efficiency. However in order to achieve those benefits is really necessary a very high accuracy in the PMP. The main problem with the MRP is that it overlooks the capacity constrains and the practices in the repair shop management.

The MRP II systems are the natural evolution of the MRP systems which come up during the 80´s [9,10, 11,12,13]. In this new information system it is taken into account the management necessities, the material planning and the needed resources and the capacities for manufacturing. Although the letter for both the MRP and MRP II are the same, the meaning is totally different. MRP II means "Manufacturing Resources planning" and it is added the Romanian number II for clearly differentiate from the MRP, which are focused exclusively on the materials management. This kind of systems, as is indicated in its name, are focused on the production area, but it is really true that these try to integrate itself with the information applications that manage others areas in the company.

Continuing with the evolutions, it is integrated several new functionalities to the MRP II systems, therefore it could cover other management areas inside the company, as could be engineering, human resources, project management, logistics, etc. This previous behavior created the new concept ERP (Enterprise Resources Planning), which defines more clearly the concept of integrated information systems for companies.

It is important to highlight that there are two ERP concepts and in many times there is confusion between these. In one hand there is the "traditional" ERP, What is the one that emerges from the MRP II, on the other hand there is the ERP II, what is the evolution of the "traditional" ERP toward the new technological and business trends produced by the arising of the internet, as it is the e-business and the collaborative environments.
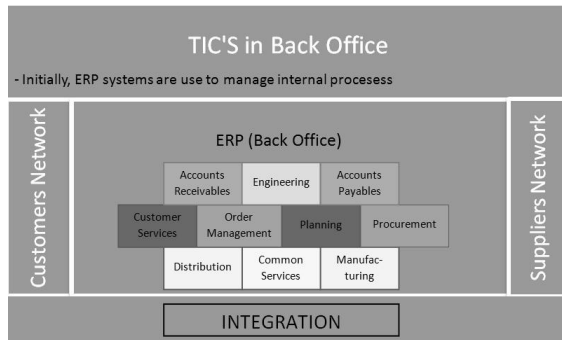
2.2 The "traditional" ERP

It is consider the ERP systems as the consequence of the evolution and sophistication of the inventory management systems during the last 50 years. [9,10,11,12,13,14].

As Muñoz *et all* (2004) [15] indicates, *"The enterprise resources planning - ERP are information systems that use business engineering and the information technology for the integrated design of the business process in an organization. These systems are build in a method for planning and controlling all the needed resources for the all the operations related with buying, producing, delivering, and accounting the order accomplishing of a customer in a factory, distribution center or in a service enterprise".*

On the other hand, according to Aberdeen Consulting Group an *"ERP is referred to the software infrastructure that by one side brings support to all the internal processes in the company and by other, is the base for the external business processes of the company".* In this case, it is given to the ERP a functionality of "support" to the connection with other systems, it is an opening to the external environment, a first step to the transformation of what is firstly known as the ERP II.

This way, after studying this and other works [8,9,11,13,15;16] among others, it is possible to conclude that a "traditional" ERP is an application for the integral management of the several basic modules that set up a company, in other words, from the more basic modules, as are accounting, procurement, selling, production, until secondary modules as human resources, cost management, quality, etc. It is a communication platform between the departments of the company that allows making the work faster.

In the picture 1 it is shown a sketch of the process that support the "traditional" ERP in a company. This is known as Back Office.

Figure 1: The ERP in the Back Office
Source: AMR Research, 2009

2.2.1. Business processes in a traditional ERP

In general, a "traditional" ERP software must cover all the internal business areas of the company. Generally the main ERP software packages exhibit utilities (in higher or a lower degree) for the following activities. [2]

- Accounting an finance
- Logistics
- Operations
- Human resources
- Sales and marketing
- Collecting and paying
- Customers and suppliers
- Warehouse management
- Planning
- Cost
- Project management
- Etc.

The ERP Integrates all these process of a company, and others, in unique single system, through it is known as "Unique Data" which is shared for all the processes that require it, as it is shown in the picture number 2.

The integration of all processes generates several benefits for a company, which can be summarized as follow:

- Unique Data. There is necessary to introduce the data only one time. This information will be available immediately, and at the same time for all the company.
- Setting hierarchical parameters of masters

(fixed tables).
- Minimization of data entering in dynamic tables.
- Information flows through processes.
- Navigability among related tables.
- Traceability
- Analytical tools
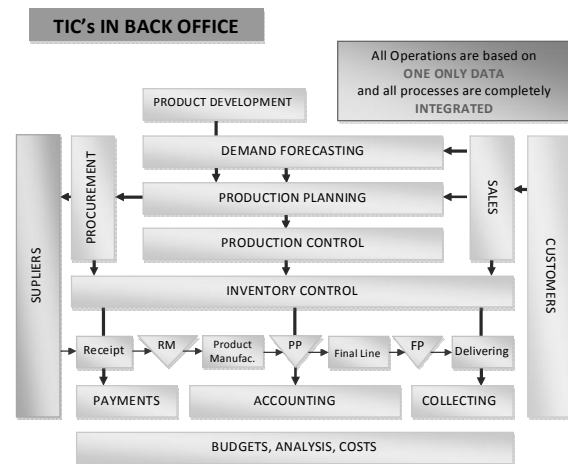
Figure 2: Integration of a company through a integrated information systems for company management
Source: own sourced

However it is important take into account a set of important considerations in order to use an ERP and in this way can achieve such integration. Some of these considerations are the following integration rules:

- Not all the process are reversible
- Inventory continuity principle
- An ERP processes only previously created records and uses deterministic computational algorithms

2.2.2. Implementation of an ERP

As could be noted in [1,2,3,4,5,9,13] the implementation of an ERP is a complex process that affects in a higher or a lower degree the whole company in which it is implemented. As Muñoz et al. (2004) [15] established, there is possible to find that the concept of the implementation of ERP systems is quite different to the concept on installing a traditional

computational system. The system requires an organization in which the processes are integrates, what means increasing the level of interdepartmental interaction with the aim of unifying the common information flow among the different areas of the company, what is different of the traditional "isolated" systems.

According to Muñoz et al. (2004) [15] a successful implementation of an ERP solution is crucial for achievement the desired results. Some factors that lead to a successfully implementation of an ERP are good project management, a change in the business processes, Good communication, transforming leadership and commitment that keeps the action to convert what is desired into reality [5] and the change management.

2.3 THE ERP II

According to Bond et al., 2000 [16] the ERP evolved into ERP II. The main characteristics of the ERP II regarding to the traditional ERP is the difference of the process that both involves and their nature. In the ERP there are considered the internal processes inside the organization, while in the ERP II the company interacts with its environment (e-business) and in this is generated "virtual integration" models of value chains of all the players in the business environment.

Recently, companies are not only needing manage internal processes (back Office) but they need covering the necessities of been connected with customers, suppliers, workers, etc. these necessities must be covered even by big and small companies (PYMES). It has caused that recently is talked about the next generation for the integrated information system for management. This new concept, generally called as Extend-ERP, or some times called e-RP, which cover several concepts related with the interconnectivity between companies.
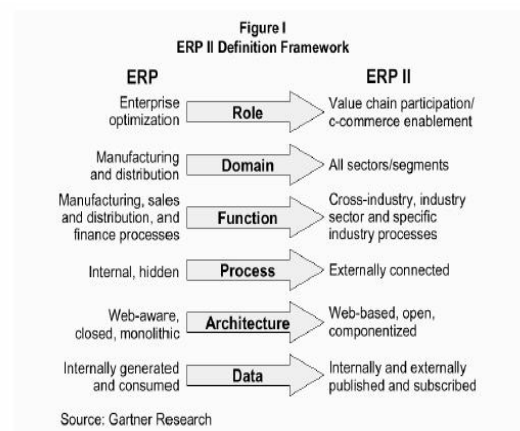
Companies have underwent a transformation from vertical integrated organization, oriented to optimized internal processes into organizations with horizontal structures, in which communication and a good relationship among the different players in the supply (SC) and the

value chain. An important fact for this positioning is the covering of aspects not only related wit electronic commerce (B2B and B2C), but also related with the collaborative commerce (c-commerce). c-commerce is understood as all the interactions that occur electronically between the internal personal of a company, the personal who helps the company for the development of their business activity and between the customers of a specific community of commerce. This community of commerce could be another company, and industrial segment, a supply chain or a segment of a supply chain too. All this is what causes that the ERP must be adapted to the "e-business" model.

This evolution caused the development of the next special tools for certain applications

- Electronic commerce (B2B and B2C)
- Customers Relationship Management (CRM)
- Supply Chain Optimization (SCM)
- Supply Relationship Management (SRM)
- Business Intelligence Tools (BI)
- Product Life Management (PLM)

All these functions were not taken into account in the "Traditional" ERP, but they are in the ERP II [17]. The evolution from the ERP into the ERP II could be centered in 6 fundamentals aspects, related with the business, the application and the strategy of technology. In the picture 3 it is depicted such evolution.
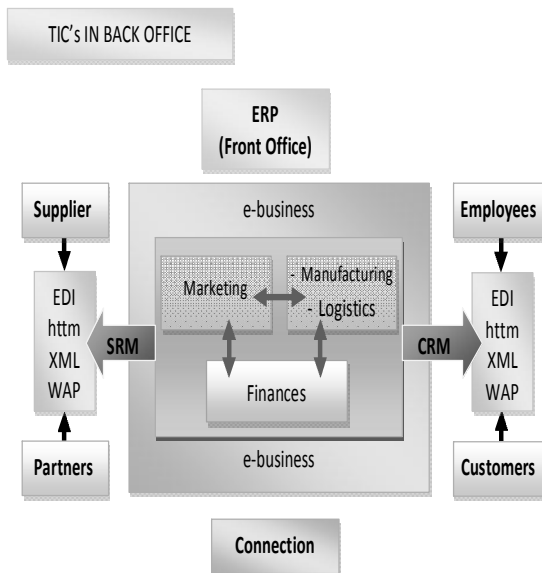

Figure I
ERP II Definition Framework

ERP		ERP II
Enterprise optimization	Role	Value chain participation/ c-commerce enablement
Manufacturing and distribution	Domain	All sectors/segments
Manufacturing, sales and distribution, and finance processes	Function	Cross-industry, industry sector and specific industry processes
Internal, hidden	Process	Externally connected
Web-aware, closed, monolithic	Architecture	Web-based, open, componentized
Internally generated and consumed	Data	Internally and externally published and subscribed

Source: Gartner Research

Figure 3: The 6 basic differences between ERP y ERP II. Source: Gartner Group

This supposes a big opportunity and a big challenge for manufacturers, since the ERP II is a new version that requires new technology and functional expansion of the software.

Picture 4 show how the ERP II systems allows connecting the internal system (Back Office) with other external systems from customers, suppliers, partners, workers, etc.

This way, the part that should correspond to the "traditional ERP" continue being the center of the company management, but over it there are some areas that interact, what aren't internal and achieving a ideal situation, "the connectivity between several ERP II from different companies". So, the ERP II will be capable to automatically connect and transfer information among others ERP II, by achieving a cost and time saving, a mistakes reduction and offering online information every time.

Figure 4: Back Office Connectivity with external systems. Source: Own Elaboration

Therefore, as it is depicted in the picture 5, two companies could have installed an integrated management system carrying and generating purchases, sales (e-commerce) supply, invoices, marketing actions, and others necessary actions with customers (CRM) an every kind of transactions needed through the integrated information system for management in a automatically way.
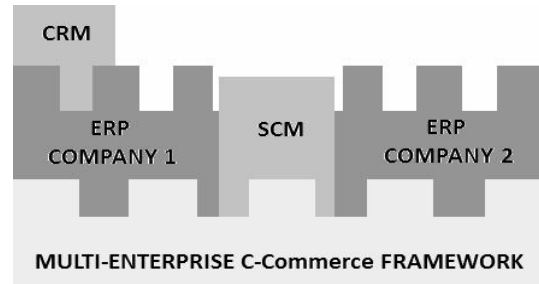
Figure 5: Connection of several companies through information . Source: own source

It is important to clarify that nowadays it is assume that an integrated information system for company management must cover all this features. Therefore, the ERP II name is becoming unused every day, since the just the ERP name is assume to take into account all this features [14].

The overall evolution process is depicted in the picture 6. Such evolution has occurred parallel to the evolution of the technologies for the information and data treatment. It is also possible to say that the evolution of the information technologies prompted this integration trend in the management of companies.
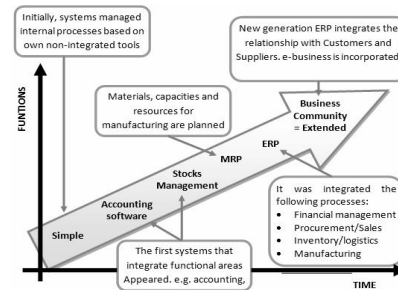
Figure 6: Integrated management systems evolution. Source: own source

3.   RECENT ADVANCES IN INFORMATION SYSTEMS FOR COMPANY MANAGEMENT

In this session is going to be presented the more recent advances about the information systems for company management. These advances could be divided into 2 different ways. The first one is related to the functional line, in which is developed new functions inside the system with the aim of the company areas uncover until the

moment. The second one is the technical line, which incorporates new technological advances to such information systems.

3.1 Functional Advances

Related to functional advances it is possible to mention several functionalities that have been added in the last five years to the integrated information systems for company' management. These are:
- CRM: Customer relationship management
- HRM: Human resource Management
- BSC: Balance Scorecard
- BI: Business Intelligence
- e-commerce: Electronic commerce

3.2 Technical Advances

In the other hand, into the technical side it is possible to highlight the following advances:

- Open programming
- Objected-oriented information
- Layers programming structure
- System architecture

One of the more important technical advances in the evolution of the information systems for company management is the system architecture. Therefore is going to be presented a brief explanation about it

The information systems for company management are generally scattered distributed in the whole company. Whereas the servers are usually centralized, customers usually are dispersed in several locations in the company. In information systems can be considered the existence of following three basic elements, which are distributed among customers and servers:

- At first place, the Data Base, what can be defined as the central data warehouse of the information that is transferred from and towards customers (users)
- In the second place is the customer, in which the data is introduced and are the one who request for information.

- lastly, there is the application, that is what runs the processes, and acts as intermediate between customers and the data base.

There are several architectures for integrated information systems depending on how these elements are distributed and where these elements are in.

4.   FUTURE TRENDS

ERP have been generally oriented towards big companies, however, recently ERP designers are looking for extending the market. Therefore they are taking into consideration the PYMES sector and they are using successful strategies to catch that market, as for example the developing of systems with some of the following characteristics:

- Lower license cost
- Lower implementation cost
- Compatibility between systems
- Less consulting requirements in the implementation phase
- Software with open code
- Vertical growing

Next the foreseeable trends of the information systems for the management of companies and what the advisor forecasts to launch to the market. What is the direction in the evolution of the ERP systems, what new functionalities will contemplate, what challenges must surpass to achieve a correct evolution of the companies in the recently changing environments. These trends can be classified in two types, the functional tendencies and the technical trends.

4.1. Functional trends

The functional tendencies indicate the new functionalities or areas that are going to cover the information systems for the management of companies. It is also necessary to emphasize the development of some functionalities, some of these already are included in some ERP, that are foreseeable to be developed in order to strengthen and to optimize their use, and what they entail.

It is possible to say that within the functional tendencies, as well, there are two trends to incorporate new functionalities of the systems (although the majority of the information systems for the management follow the two lines in parallel). On the one hand, there is the opening of the information systems for company management, to integration with other specific systems, that cover specific needs, or of specific areas within the company. On the other, it is the tendency to try to include all the possible functionality, integrating the functionality that until the moment is offered by other systems, inside the own information system for company management.

Some of the functionalities that the new ERP can absorbed or that at least can integrate with others information systems are:

- SCM: Supply Chain Management
- CRM: Customer Relationship Management
- PLM: Product Lifecycle Management
- DW: Data Warehouse
- SRM: Supplier Relationship Management
- BSC: Balance scorecard
- KMS: Knowledge Management System
- BI Business Intelligence
- POS: Point of Sales

Some of these functionalities appear in previous point of this paper as functional advances that already have been added to the ERP, however, although the majority of the ERP have already incorporated such funtionalities, the trend is to continue with their development, to assure that companies, (both big and PYMES) could explode it as maximum.

4.2. Technical Trends

Related with the actual technical trends, it is possible to highlight the followings:

- Open software
- Hosting of Applications Service Providers
- m-Commerce

Recently there is a trend to the use of free software, in other words, open and gratuitous

code in different scopes. This trend is starting to take part in the information systems for company management [9]. These days it is possible to find in Spain a software called Openbravo, which has these characteristics and it is starting to get an important portion of the market. However, this trend is still very weak and it seems not to be strong enough. Nevertheless, this tendency must be carefully considered. It is important not to forget the recent closing of "Encarta", the digital encyclopedia of Microsoft, due to the appearance of a free software encyclopedia, "Wikipedia", which won the battle.

The second technical trend, the Hosting of Applications Service Providers, is a common activity these days, since there are several companies that are dedicated "to lodge" management systems, which can be used by companies through high speed internet or some network connections [12]. These supplier companies cover both the software and the hardware maintenance, and the updates, security, etc. of the applications. All this, allows companies to reduce the work load and some costs from different natures, and it also allows them to focus in their Core Business.

The m-commerce is one of the technical tendencies, that as well as modifying the conception of the information systems, it can modify the form to make businesses as the way of those are known at present. The mobile technology is a new communication channel that allows companies and people to be connected and access to Internet whenever, regardless the place, date and hour.

5   m-commerce   AND   INFORMATION SYSTEMS FOR MANAGEMENT

5.1 m-commerce

As it has been introduced previously, m-commerce is one of the technological advances that, most probably, will be soon integrated in integrated information systems for management. This technological advance and its integration could modify the present way of making businesses. Therefore, this new tool can produce a new revolution in the world of the   companies.

In the last twenty years, e-commerce has been one of the most important advances in the world of the businesses, and recently m-commerce is ready to position itself within that development of e-commerce. [2,13].

The mobile technology is a new communication channel, that allows companies and people to always be connected and accessed to Internet, regardless the place, date and hour.

Recently, the company management is still learning and adapting to the new ways of making businesses created by e-commerce. The necessity of being adapted and learning about this new adaptation is going to be increased by the new changes that are going to generate the m-commerce. These changes will affect both the internal and the external part of companies.

It is possible to say that "m-commerce" or "mobile commerce" is all the commercial activities that use or are supported on a mobile telephone. Although there is not the effective "purchase" of a product or service in the m-business, the search, look, comparison of prices and the delivery of such products, are commercial activities that are part of the mobile commerce.

Nowadays m-commerce is more a reality than a future trend. Thus, Polo Ralph Lauren in August of 2008, launched an electronic commerce service that allows customers to buy products through its mobile devices [18]. It is possible by using QR Codes, a new technology that is already incorporated in some mobile devices sold in the market. This QR code can store a lot of information, for example URL´s, and when this information is read for a device designed for that, the mobile is immediately connected to a Web port, in order to execute the m-commerce transactions [19]. Also, customer can be alerted on their mobile devices with information about the opening of new stores, events and some advertisement from producers.

According   to   David   Lauren,   advertising, marketing   and   communication   VP   of   PRL

"Consumers look for the right and for flexible services, which will be easy to obtain. m-commerce is very attractive since anybody can purchase many things and services regardless the place and the moment".

Continuing with same line there is a new initiative to create a retail sales multi-channel. This initiative was announced during the 98ª Convention and Annual Exposition of National Retail Federation (NRF), celebrated in the Jacob K. Javits   Convention Center in New York [20].

5.2 The mobility in the company management: from m-commerce to m-business

The mobile technology is currently centered in the sales area however its application should cover others areas, in other words, it must allow customers to carry out and manage their orders through mobile devices. There are many applications for mobile technologies in the processes of the industrial sector. The key tool is the integration degree of such processes with the internal   management   of   the   company.

Sales through m-commerce could be treated as an entry to the information system, what is later managed as has made traditionally with faxes or e-mails, but with the advantages that the mobility offers to customers. Nevertheless, from the mobile devices it is possible to execute other internal processes in the company, as it can be the launching of a production master plan, the report of working hours, or a stock movement. Also some data and results could be looked up, as for example watching the balanced scorecard, a project situation and the financial situation of the company. All this can be watched from a mobile device, anywhere and at any time. This functionality is not wide used for companies beyond the sales area, and that can facilitates a total mobility, what could be a key feature for some companies in the future. This way, the mobility that represents the m-commerce, could be extended to others areas in the company, what could generate the logical evolution towards the m-business, such as it happened with the e-commerce and the e-business.

5.3 Adapting the information system to the m-business

Considering this new trend, it is important to ask what factors must be taken into account in an information system for the "opening" of this towards the m-commerce or the m-business? From this point of view, there is important to consider how people interact with mobile devices. Nowadays, inside the AIS (Association for Information Systems) they have created a focal group AIS SIGHCI (Special Interest Group on Human Computer Interaction) with the aim of studying the interaction between people and computers.

G. M. Olson & J. S. Olson (2003) [21] defined HCI (Human Computer Integration) as "*the study of how people interact with the computer technology*" according to these authors, the HCI researches was made in six categories. *One of the main researching lines is about developing user interfaces, considering mobile devices, among others.*

Inside this group, there is a researching area what is dedicated to the interaction with Management Information Systems (MIS), what is centered in studying the human interaction with information, technology and tasks, especially in business environments, management, organization and culture. This point is centered whit the ERP, that is, at the end a MIS.

Zhang et al. (2004) [22] mention 3 important aspects related with the interaction of people with mobile devices.

- The size and the structure of the screen and the information. [23].
- Color text and wallpaper combinations. [24]
- Acceptable responsible time.

Chittaro 2006 [25] pays attention to these aspects too. In this work it is also mentioned the constrains existing in the development of electronic tools for mobile devices compared with the developments for computers. Among this constrains and considered factors, It could be highlighted the system or the data introduction techniques or the executable commands.

As is clear, it is not the same using a typical computer keyboard or mouse, than using a mobile device, which is smaller and with less options. This is a very important factor, since the applications must be "user-friendly", and must be redesigned, for a easy access and use through the mobile keyboards.

At this moment it is import to recall that the applications are being designed for m-business, where the user not only could look up for data, make purchases or reserves through the screen, but also he could use all the functionalities (usually in a cell phone) that implies working in a information system for a company management.

On the other hand, it is also necessary to consider the possible trends commented previously, as far as extending functionalities, of the manufacturers of the information systems for company management.

One option is to facilitate and strengthen the integration of the systems with another software, from others m-business specialized manufacturers, for which the information systems must be suitably prepared.

Another option is "to absorb" such functionality within the same information system. This option is more complex; since that it must be developed in the same information system, the communication system and the "interface" with the user, considering the different aspects previously related in order to optimize the interaction between the mobile devices and the people.
At present, the majority of the great manufacturers of integrated information systems are following both trends in a parallel way. However, it is important to emphasize that nowadays these information systems have been more tended "to absorb" functionalities, within a single system. Until the moment, this has not been possible with the management of m-commerce, because it is still an emergent technology, and is not developed enough.

It is possible to emphasize that the technologically most advanced systems, as Drnamics Ax [26], previously called MBS

Axapta, of Microsoft, already contemplates this alternative since several years ago. In the 3.0 version, there are some examples of interfaces for PDA´s, even for those with vertical or horizontal screens.

Nowadays, the development and improvement of the communication [27] have achieve a level in which it is possible to occur an inflexion point that definitely will launch this new communication channel to the massive use of the market.

6. CONCLUSIONS

The information systems and his application company management have evolved constantly, and these have been continuously adapted to the market requirement and to the new emerging technologies. These software applications have become, from small programs into big one just in few years. Initially these programs were designed for running accounting applications but recently the ERP are able to manage all the information that the company needs, even internally as externally.

In the last years, there have been incorporated new advances to these systems. In one had there are the functional advances, which cover new areas of the company, as for example the balance scorecard, knowledge management, CRM, e-commerce, etc. In the other hand, there is also incorporated new techniques and technologies as the object oriented programming, new architectural systems and new languages and programming structures.

Recently, the information systems for company management are continuing evolving, and the foresee trends includes both technical and functional improvements. In the functional trend it will be incorporate new features, and also it will improve and optimize current features as the SCM, PLM (Product Lifecycle Management), CRM (Customer Relationship Management) , DW (Data Warehouse), BSC (Balance Scorecard), KMS (Knowledge Management System), BI (Business Intelligence), POS (Point of Sale), etc. Related with the technical trend it will be important the emerging of the ASP, open

software and the e-commerce .The m commerce is one of the more incipient trend and these tendencies could greatly modify some processes from companies. Through this communication way, the company management could be available for users regardless the day, hour and place.

But in order to this to be possible, it is necessary that information systems will be adapted to the needs of mobile devices, and for that it is important to consider several factors, as for example the interaction between these devices with people. However, already solved this and other small existing problems, it is possible to say that nowadays the current technology has reached a level, in which it is possible starting this new communication channel, making it finally possible, and with everything what it can suppose. Therefore, companies could start preparing themselves to operate this new tools, and to optimize their resources and processes through it.

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