

# Analysis of interactions between Information system, Communication and Marketing in Organizations

Hamid Nahla, Hicham Medromi, Meriyem Chergui, Soukaina Elhasnaoui, Aziza Chakir  
And Youssef Sekhara

Systems Architecture Team, Laboratory of Informatics, System and Renewable Energy, Hassan II University – ENSEM,  
Casablanca, Morocco

**Abstract**—Communication, Information system and Marketing are a high and real value-added function for any organization. It needs to be clearly situated in the structure of organization to play completely their role. According to the Level of development of the organization, the company or the country, their place and their attributions are often badly defined. Their interactions also. We believe that numerous factors macro as those of the external environment and the micro as those of the business sector of the organization, its size, its structure have a determining role. To validate our hypotheses, we realized an empirical study on a sample of 262 Moroccan organizations, between companies and organizations other than companies. This work on analysis of interactions between information system, communication and marketing in organizations could server as well to the researchers, to the professionals, as to the managers.

**Keywords**— Communication, Information system, Marketing, Morocco.

## I. INTRODUCTION

The contribution of new technologies of information is behind the revival of the concept of information system. The combined use of computer, electronic and telecommunication processes enables today, according to the needs and intentions expressed, to accompany, to automate and computerize almost all operations included in activities or business processes .

The growth of the function of communication is bound by a large volume of business and therefore a large amount of information to administer and the best part it will take to make the right decisions. This mass of information, sometimes sensitive, as concerns the business environment on its resources and manage daily although not always do something obvious, is crucial in this sphere of market globalization.

Information systems can play a crucial role in the success of the communication department. Indeed, rightly information systems provide the information the company

needs for efficient operations, effective management, and to obtain or maintain competitive advantage. And a good grasp of the information system and its adaptation to the strategic objectives of the company in general and in particular the Communications Department, helps for sure businesses thrive in a highly competitive economy.

The focus will be more on this aspect, because we believe that the macro is rather generic and valid everywhere and anywhere, while the micro supposes the existence of a real organizational structure effective with the human, financial and logistical means. It comes true through the size of the organization, the existence of the other support functions as Production, Human Resources Management, the Directorate of Information System (SI), Communication (Com), ... etc., especially as its interactions with other strategic functions is more than obvious.

At first, we shall recall, in the literature review, the evolution of the marketing function in organizations. In a second part, we shall present the results of an empirical study on the marketing function in the Moroccan organizations.

## II. LITERATURE REVIEW

The information system (IS) is an organized set of resources that can collect, store, process and distribute information. [1] This is a socio-technical system consists of two subsystems, one head and the other technique. The technical sub-system consists of the technologies (hardware, software and telecommunications equipment) and processes involved in the SI [2]. The social subsystem consists of the organizational structure and persons linked to the IS, it represents the business functions of the company to know the function of communication.

To validate our hypotheses of departure, we proceeded by eliminating little or no significant variables as to the existence or not of the marketing function, retaining only those who seem to us solid, namely: the sector of activity (and thus its markettarget), the size of the company and

the existence of both support functions of the marketing that are: the Com and SI [3].

Marketing management is the organizational discipline which focuses on the practical application of marketing orientation, techniques and methods inside enterprises and organizations and on the management of a firm's marketing resources and activities. Globalization has led some firms to market beyond the borders of their home countries, making international marketing a part of those firms' marketing strategy [4].

Marketing managers are often responsible for influencing the level, timing, and composition of customer demand. In part, this is because the role of a marketing manager can vary significantly based on a business's size, corporate culture, and industry context. For example, in a large consumer products company, the marketing manager may act as the overall general manager of his or her assigned product [5]. To create an effective, cost-efficient marketing management strategy, firms must possess a detailed, objective understanding of their own business and the market in which they operate [6]. In analyzing these issues, the discipline of marketing management often overlaps with the related discipline of strategic planning [7].

### III. EMPIRICAL STUDY

#### 3.1. Objectivities

The objective of this paper is twofold: examine the Marketing function in Moroccan organizations. This study focused on the place and interactions of this function. This study focuses on the perception of the relationship between the information system and the function of

communication and Marketing function within a company.

#### 3.2. Research hypotheses

3M communication and The marketing function which are situated between the functional functions (on the strategic plan) and operational (on the practical plan) [8] was not enough developed in the structures of organizations of the emerging countries. This work will try to fill this gap. The IS does not have all the knowledge to interact effectively with the function of communication 3M and Marketing function to get out added value. To validate this hypothesis, we conduct a perception of communication by Moroccan leaders of IS.

#### 3.3. Research methodology

We have already realized in the month of Mars 2016, the first empirical study on Communication in Organizations in Morocco [9]. This was possible thanks to our engineering students at ENSEM who administer questionnaires of 45 questions with 300 organizations. We validated initially 212 questionnaires, the other had no official stamp or signature of the organization contacted. The perusal of questionnaires and the treatment of the data were realized with the Software Sphinx and Excel. For companies and about this article concerning the marketing function, we added 50 other questionnaires to obtain finally 262 organizations. The sample was constructed using the quota method. Were taken into account 3 criteria: Size [less than 100 employees, 100 at 500, 500-1000, over 1000], Type of organization [Enterprise, Administration,...] and Activity (Activities represented in the official High Commission for Plan in Morocco, HCP) [10].

Table 1. Sector of activity of the company

Company	Legend	Freq.	Increasing cumulative
Financial activities and of insurance	FII	14%	14%
Information and communication	COM	12%	26%
Education (primary, secondary, upper, public, private)	EDU	9%	35%
Transport and storing	TRS	7%	42%
Arts, show and creative activities (Music, cinema...)	ART	8%	50%
Manufacturing industry	MAI	6%	56%
Construction (Building, public works)	BTP	5%	61%
Trade, repair of automobile and motor bicycles	CAR	6%	67%
Public administration (Prefecture, municipality, district...)	ADM	5%	72%
Human health and social action (Hospitals, private hospitals)	HUM	5%	77%
Agriculture, forestry and fishing	AFF	4%	81%
Mining industries	MII	4%	85%
Production and supply of electricity, gas, vapor and air-conditioning	PEG	4%	89%
Specialized, scientific and technical activities	SST	4%	93%
Activities of administrative services and support	AAS	4%	97%
Real estate activities (Sale, rent)	REA	2%	98%

Production and water distribution, purification, waste management	PWD	1%	99%
Hosting and restoration	HOT	1%	100%
<b>TOTAL the OB.</b>			100%

First 5 sectors on 18 (Table 1), (28%) occupy half of our sample (50% exactly). For organizations other than companies, we selected fields of activity strongly influencing the economic, social, cultural and political life of the country (Table 2). 71% of the part of the sample reserved for organizations consists of Professionals, Associations and municipalities (Table 2).

Table 2. Business sectors of the organization

Organization	Legend	Freq.	Increasing cumulative
Professional Chamber (Commerce-Industrie-Services-Agriculture)	Pc	18%	18%
Labor unions (UMT-CDT-UNTM-UGTM)	Lu	14%	32%
Grouping of professionals (Announcers (GAM) - employers (CGEM) Importers and Exporters	Gr	14%	46%
Associations (Cultural, social, artistic, scientific...)	As	14%	61%
Municipalities (rural urban-common Municipalities)	Mu	11%	71%
Councils of the State (Rights of the Man-fight, the resident Moroccans at foreigner, the economic and social council, Council Aniti corruption...);	Cs	11%	82%
International organization	Io	9%	91%
Organs of regulation and control (ANRT, HACA, OJD, Mediametrie...)	Rc	5%	96%
Parliament (The chamber of the representatives and the Chamber of Councillors)	Pi	4%	100%
<b>TOTAL the OB</b>			100%

### 3.4. Variables to study

To validate our hypotheses of departure, we proceeded by eliminating little or no significant as to the existence or not of the 3M communication and marketing function, to retain only those who seem to us solid, namely: the sector of activity (and therefore its market-target), the size of the company and the existence of both support functions of the marketing, 3M communication and Information systems.

### 3.5. Analysis

To analyze the place of the marketing function and 3M communication in the Moroccan companies, the possible interactions with the other functions with IS, and the determining factors, we chose significant variables and built some map of factorial analysis by correspondence.

#### 3.5.1. Study on Marketing function interactions

The Marketing Manager is, in an organization, the member of the Management being at the head of the marketing department. He is in charge of the application of the marketing strategy in the company and the supply of the necessary information to make it. This information is quantitative or qualitative. They come from internal sources (Accounting, statistics of sales, purchases, stocks, production, human resources, logistic means...) and external sources (quantitative and qualitative Needs for the market, the capacity of the competitors, the business, technological, strategic intelligence). Where from the necessity of being in touch with all these parts.

We retained here two functions: upstream, the Function of Information Systems and downstream the Direction of Communication ... The existence of these three departments denotes of a structure mature as we shall show it farther. On whom depends the Marketing director?

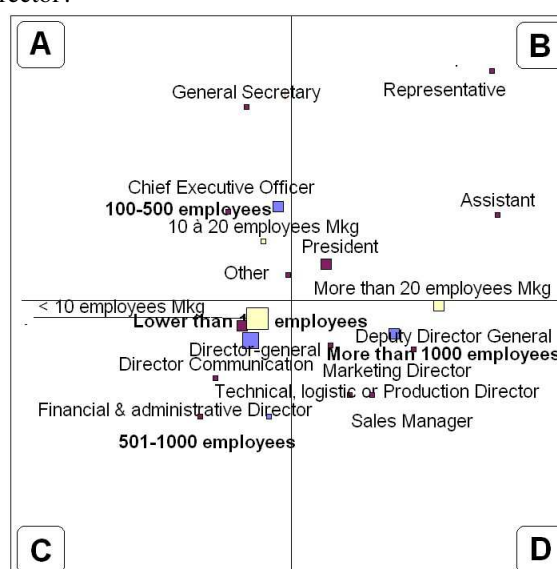


Fig.1: Map of variables "Size of the company", "Size of the Department of Marketing" and "hierarchical Dependence"

### 3.5.2. Study of the SI's ability to give relevant information to make decisions on the loss and decrease its causes

We wish to analyze the relationship between the relevance of the IS and the loss of communication messages focusing on the causes of these losses.

The selected variables are:

- Losses,
- Causes Losses,
- IS Relevance

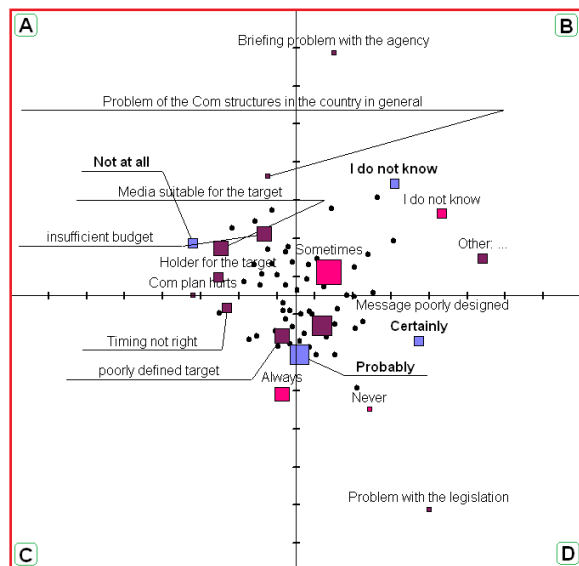


Fig.2. Relevance of SI for the knowledge of loss and its causes

The mapping between these three variables allowed us to visualize the most common causes of loss in connection with the relevance of the SI. The causes of losses are known:

- Ill-conceived Message
- Ill-defined Target
- Timing not right
- Communication Plan is
- Media unsuitable for the target
- Inadequate support to the target
- Insufficient budget
- Briefing problemwith the agency
- Trouble in the legislation
- Problem of communication structures in the country in general.

In dial C, it was noted that when the SI always gives relevant information to make decisions, loss of communication between the transmitted messages and the receiving target is likely. Thus, the detected cases are: timing inconvenient, poorly defined target. The three variables are thus consistent. This correlation is well justified because when the IS is well established within the company allows to provide relevant information to all

departments of the company, including that of communication, which allows to know the losses between posts thereof and identify the causes.

In the face D, people who find that IS does not give relevant information, also admit that some losses are identified and the causes are poorly designed messages. This result is justified because the irrelevance of the IS can only have an impact on the company's departments, specifically, the communication department.

In quadrants A and B, we found no correlation between the three variables.

### 3.5.3. Study the companies in which exist and the information and communication department system

We wish to analyze the relationship between the existence of the information system in the company and the existence of the communication department.

The selected variables are:

- Existence IS
- Existence Communication

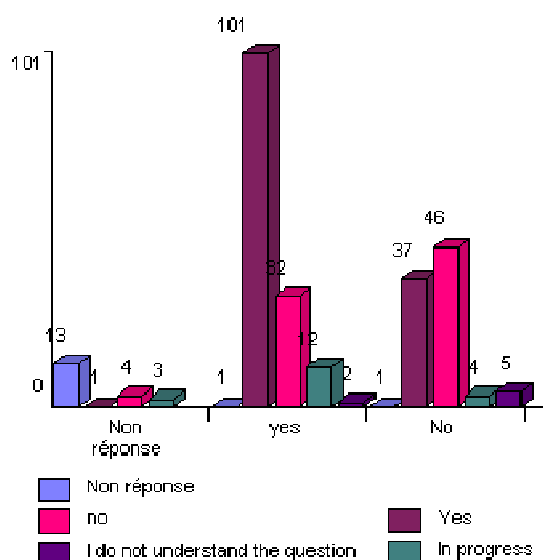


Fig.3: The coexistence of IS and Communications Department

The previous graph represents the result. Most companies with which there is a communication department have an information system. This observation leads to the conclusion that the presence of an information system in the company strengthens the function of the communication department.

An information system will provide mastered the Communications Department the tools to achieve its strategic objectives. It will enable organizations for example to improve their creativity and effectiveness, to enter markets at a global level and seize business opportunities faster, reduce product development cycles and adopt communication strategies largely meet customer needs. The information system will then also

evolve to allow communication to follow its new strategy, and the cycle will continue.

### 3.5.4. Perception of the knowledge of a director of information systems 3Mcommunication:

We wish to analyze the perception of the knowledge of a director of information systems of 3Mcommunication.

The selected variables are:

- Responding Company
- Macro communication Perception
- Perception Meso communication
- Perception Micro communication

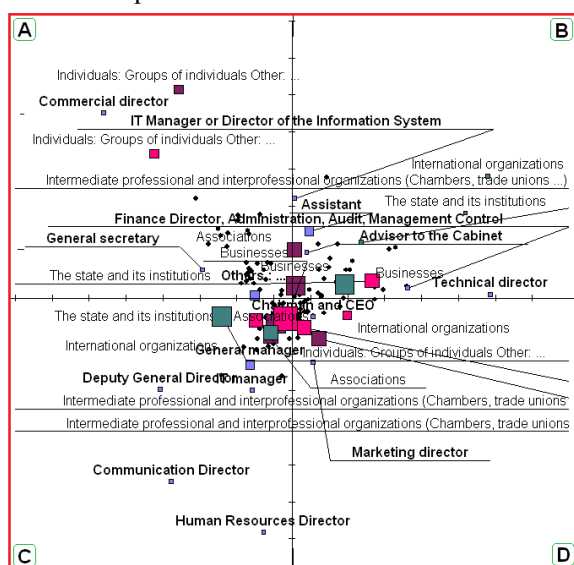


Fig.4: 3M perception by the Director of IS

The mapping between these four variables allowed us to visualize the correlation between the parameters chosen by focusing on the chief information officer as respondent in this survey.

In quadrants A and B, identifies the chief information officer as meeting the company positioned in the middle of the two dials.

According to the director of the IS, the perception of 3Mcommunication is present, it includes:

- Businesses ;
- The state and its institutions;
- Professional organizations and intermediate inter (Chambers, trade unions ...); International organizations;
- Associations ;
- Individuals: Groups of individuals Other: ...

In sum, the perception of the interactions is still reduced and the content of each component 3M has not yet mastered by the director of the information system.

IS can be analyzed as a control system that clarifies and reorganizes relationships and work activities between the various entities. This positions the IS as an interface between the control system, which designs, organizes the

system of representations (the objectives, orientations, the company projects) and decides, and the operating system, operational, which leads everyday actions [11].

### 3.5.5. Perception of managing the communication department operations by the IS and its impact on the extent of the latter on target by country

We wish to analyze the relationship between IS management and its impact on the extent of the latter on the target country.

The selected variables are the following: Target Impact Management IS

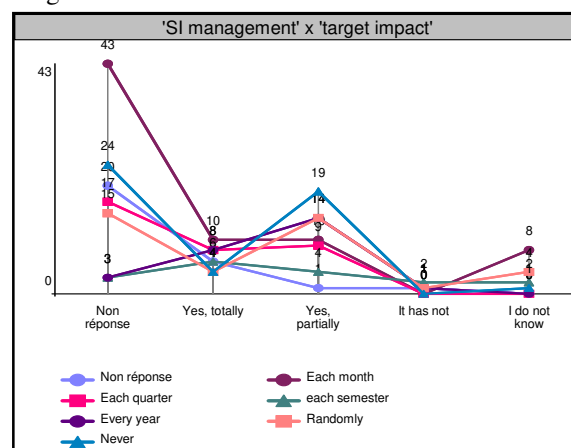


Fig.5: IS management and its impact on communication

The previous graph shows the result, it shows that when we measure the impact of communication on the target by companion each month, the IS does not follow the management of the communications department operations, which proves that Moroccan companies are not as mature to fully manage the processing carried out by the department of communication, even if it is making efforts to measure the impact of communication on the target partner.

Some IS designed to map the activities of communication and coordination in a logic of organized action to achieve the goals set in advance by the management tools and techniques. The alignment of different sites or working groups is often essential in achieving the objectives that requires distributed cognition with SI support [12].

Management tools allow investigation of organizational functioning [13] and can enjoy the properties of the IF to refine the modeling of the resources available in the various entities of the organization by requiring them to generate information on a common basis.

### 3.5.6. Analysis of Marketing, Communication and Information system functions, in all the organizations by sector and staff

This factorial analysis of the multiple correspondences takes into account variables: business sector, Authority and Organization, Staff, Existence of the marketing function (Mkg), Existence of the function Communication (Com) and Existence of the "Information system" function (SI). The map shows the positions of 33



modalities. 5, 1% of the variance is explained by two represented axes. The non-answers were ignored. 6 modalities were taken into account no (worthless staff).

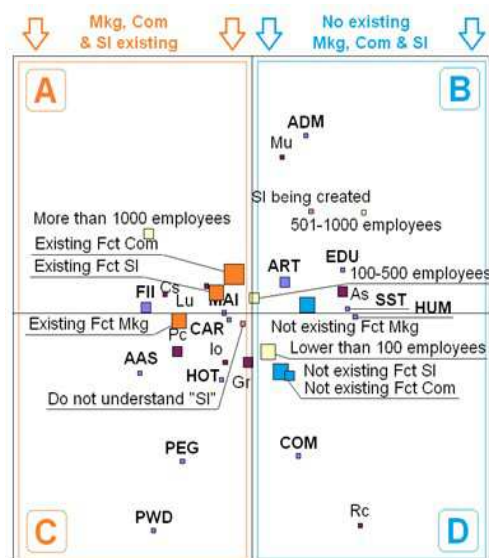


Fig.6:Map All Functions and all Sector of activities and size of all organizations

Table 3. : Model of the existence of the marketing function

		Marketing structure	
		Not Formalized	Formalized
Size of organization	Small to medium	Little existing or downright non-existent, the marketing function promotion is often confused with the function selling or advertising ... Everything remains to be done!	
	Large organization	The company often detains a monopolistic position ... The priority is given to the commercial logistics of sale, storage or / and delivery.	Overseen by the highest level of the management it occupies a strategic dimension on key sector on markets often very expanding general publics or at least "milk cows"

Source: NAHLA Hamid, *Place of the Marketing Function and Its Interactions with The Functions of Communication and Information System: Empirical Study on The Case of Organizations In Morocco*. International Journal of Management, 7(4), 2016, p. 74. URL : <http://www.iaeme.com/ijm/issues.asp?JType=IJM&VType=7&IType=4>

This model could be enriched by other variables inputs and outputs.

## V. CONCLUSION

This article raised a subject little approached by the managerial literature, worth namely the existence of 3M Communication, a marketing structure and IS in organizations. To approach it, we asked ourselves questions on the factors which determine its existence or not. There is so much. But we limited ourselves to some: the size of the company, the sector of activity and the existence of support functions of marketing function ... According to the results of our empirical study realized in 262 Moroccan organizations of various sizes and all the business sectors, we deduced that there is strong correlations between the existence of those functions, the

According to this map, it confirms our hypotheses of departure: not only the Marketing function, but so these three support managerial functions exist when the organization (public or private) is large-sized, in sectors characterized by products (Goods or services) intended for the general public (Rectangle A-C). The opposite (BD) is also true!

## IV. PROPOSAL SIMPLIFIED

### ORGANIZATIONAL MODELS 3M

In the light of our documentary study, and in view of the results and of the analysis of our empirical study, we can succeed towards a model simplified by the existence of the marketing function in interaction with the size of the company and by the sector of activity in particular.

size and the interactions with the managerial functions supports.

As an example, in certain cases, we noticed that sectors strongly marked by their small staff, generally small and medium-sized enterprises do not arrange a marketing function in a formalized way. *Does marketing bloom only in big capital-intensive structures to make them finally spread?!*

We proposed finally a model simplified of the existence of the marketing function (Figure 11) for deepening. Besides, the weakness of our research consists of the limitation in two support functions (Com and SI). Other interactions should be analyzed. We think of factors of inputs such as the skills, the research and development or

the lean management [14], among others; and factors of outputs such as the size of the market, the strategic segmentation by sectors, by products, by geographical zone etc.

It could be the object of other research. However, this work could server as well to the researchers, to the professionals, as to the managers.

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