

TRACK 02: DOES IT MATTER? THE
ORGANIZATIONAL IMPACT OF INFORMATION
SYSTEMS

ANTECEDENT FACTORS OF THE IT INVOLVEMENT
INTO TOP MANAGEMENT TEAM: A CONCEPTUAL
MODEL PROPOSAL

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ANTECEDENT FACTORS OF THE IT INVOLVEMENT INTO TOP MANAGEMENT TEAM: A CONCEPTUAL MODEL PROPOSAL

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Abstract

The importance of the role of IT is widely recognized at both managerial and academic levels. On one hand, top management team requires strategic value from IT. On another hand, the status of the role of IT is lower than the role of other organizational units which play a strategic role. Consequently, the role of IT is still debated in literature. As it emerges from the literature analysis, the IT involvement into the top management team (TMT) is a key factor for IT success. This study aims to propose a first conceptual model for the antecedent factors of such IT involvement into TMT. Two categories of factors are proposed: individual and organizational. Moreover, data on 925 Italian firms were collected, and some preliminary findings are presented.

Keywords: IT involvement, top management team, IT strategic value, IT innovations.

1. Introduction

The role of Information Technology (IT) and its capacity to influence organizations have significantly changed since 1970s (Brown and Sambamurthy, 1999; Benjamin, et al., 1985; Ives and Olson, 1981).

According to previous studies, IT responsible should be effective in a variety of roles, such as business strategist, infrastructure builder,

organizational architect, and an informed buyer of IT services (Earl and Feeny, 1994; Rockart et al., 1996; Ross and Feeny, 2000). Moreover, IT responsible should be effective either in demand-side leadership or in supply-side leadership (Broadbent and Kitzis, 2005).

Nowadays, there is a large agreement among both business and academic communities (i.e. business managers, practitioners, professionals, researchers, scholars and so on) on considering IT as strategic role (Boynton et al., 1994; Orlikowski and Barley, 2001; Sambamurthy, 2000). The concept of strategic IT refers to the IT capability to influence an organization's products and services, and/or the way the organization competes in the market (Keen, 1991; Venkatraman, 1991; Rockart, 1988; Zmud, 1988).

Top Management Team (TMT) requires strategic value from IT (Feeny and Willcocks, 1998; Peterson, 2004). Top management team includes top managers, as the Chief Executive Officer (CEO), the Chief Financial Officer (CFO), the Chief Operating Officer (COO), and other senior business executives (Armstrong and Sambamurthy, 1999).

From that, it emerges the importance of the IT involvement into TMT.

Moreover, such IT involvement into TMT can influence some organizational factors like as top management commitment, business understanding of IT, and IT understanding of business (Boynton, et al., 1994; Lederer and Mendelow, 1989). These elements, in turn, influence the IT success (Keen, 1991; Luftman, 2003; Reich and Benbasat, 2000), and the competitive use of IT and the successful implementation of IT-based strategies (Jarvenpaa and Ives, 1991).

While the IT capability to create business value is widely accepted as relevant from operational to strategic decisions making processes (Lederer and Mendelow, 1987), the role of IT is still debated in literature (Broadbent and Kitzis, 2005; Smaltz, et al., 2006). One of the IT responsible major problems is the lower status of their role than other organizational executive's role (Kaarst-Brown, 2005).

According to the above considerations, a paradox clearly emerges: IT is considered as strategic organizational resources, and at the same time IT is rarely involved into the organizational strategic decisions.

The purpose of this study is to contribute to the debate about the relevance of IT as a strategic resource. In order to contribute to the understanding of why IT involvement in the TMT is still an issue, our research investigates some of its antecedent factors.

The specific goal of this study is to formulate a first proposal of conceptual model for factors that can influence IT involvement into Top Management Team. Moreover, we propose some preliminary results based on data collected within the Italian firms through a structured survey.

2. Conceptual model and hypotheses

As mentioned in the introduction, IT is considered as a critical organizational resource (Boynton, 1993; Boynton and Zmud, 1987; Boynton, et al., 1993; Cash, et al., 1988).

According to the literature, IT could be analyzed through two main lens of analysis:

- IT organizational role and function (Agarwal and Sambamurthy, 2002; Barua and Mukhopadhyay, 2000; Bharadwaj, et al, 2001; Boynton, et al., 1994; Broadbent and Kitzis, 2005; Earl and Feeny, 1994; Kaarst-Brown, 2005; Rockart, 1988; Sambamurthy, et al., 2003; Schein, 1992);
- Alignment between business and IT (Armstrong and Sambamurthy, 1999; Brown and Magill, 1994; Chan, et al., 1997; Feeny, et al., 1992; Henderson and Venkatraman, 1992, 1993, 1996; Keen, 1991; Ives, et al., 1993; Lederer and Mendelow, 1987; Luftman, et al., 1999; Reich and Benbasat, 1996).

It's definitively recognized that IT has moved from its "back office" role toward a "strategic" role (Henderson and Venkatraman, 1993; Keen, 1991; Venkatraman, 1991; Willcocks, et al., 1997).

The strategic role of IT can influence organization in different ways: automating, informing up, informing down, transforming (Armstrong and Sambamurthy, 1999; Schein, 1992).

Thus, IT responsible is required to have some managerial characteristics, like to be a leader, entrepreneur, spokesperson, resource allocator, negotiator, monitor, and so on (Grover, et al., 1993; Mintzberg, 1971, 1980).

Nevertheless, the status of IT responsible is still much debated as its role has a lower status level than other organizational executive's role (Kaarst-Brown, 2005).

In literature there are several contributions that identify the main reasons for the low status of IT responsible, such as personality conflicts, a lack of corporate technology vision, a poor alignment between organization and IT goals, organizational culture, lack of instruments to measure IT benefits (Bakos and Treacy, 1986; Kaarst-Brown, 2005).

Although the IT status in organization is still not clear, TMT expects strategic value from IT as it represents an organizational critical resource (Bakos and Treacy, 1986; Boynton, 1993; Feeny and Willcocks, 1998; Peterson, 2004; Willcocks, et al., 1997). One contribution states that "the successful implementation of an MIS depends on the active and informed participation of executive management" (Adams, 1972).

In fact, the role of senior management and its IT-literate level represent two essential elements for the IT use and innovation success in organizations (Boynton, et al., 1994; Earl, 1989; Keen, 1991; McKenney, et al., 1995; Synnott, 1987). Moreover, Keen (1991) stated that "IT success generally reflects an effective relationship between business managers and Information Services managers and their staffs".

This relationship relates to the concept of "alignment", which is the way IT is designed, implemented and used in harmony with business needs, strategy and goals (Luftman et al. 1999).

The alignment between IT and business is intended as a dynamic relation. Thus, IT function and the rest of business should have the capability to develop iteratively over time (Agarwal and Sambamurthy, 2002).

The relation between top management and IT management is a relevant issue since 1988 when Rockart said that "the deployment of information technology is far too important to be left to information technologists". As Keen (1991) said, "the dialog is needed most right at the top". Thus, IT can be considered an organization responsibility, not only an IT responsibility (Doll,

1985; Luftman, 2003), and the involvement of top management in the IT critical issues becomes essential.

Recently, the interactions between IT management and TMT has also been defined as IT and TMT engagement (Smaltz, et al., 2006).

There are some works in literature that demonstrate the relevance of such alignment or engagement (Benjamin, et al. 1984; Boynton, et al., 1994; Earl, 1989; Feeny, et al., 1992; Keen, 1991; King, 1978; Lederer and Mendelow, 1987; Lederer and Sethi, 1988; Luftman, 2003; McLean and Soden, 1977; Reich and Benbasat, 2000; Rockart, et al., 1996).

Following the above considerations, we propose a first conceptual model for analyzing the antecedent factors of IT involvement into TMT, as depicted in Fig. 1.1.

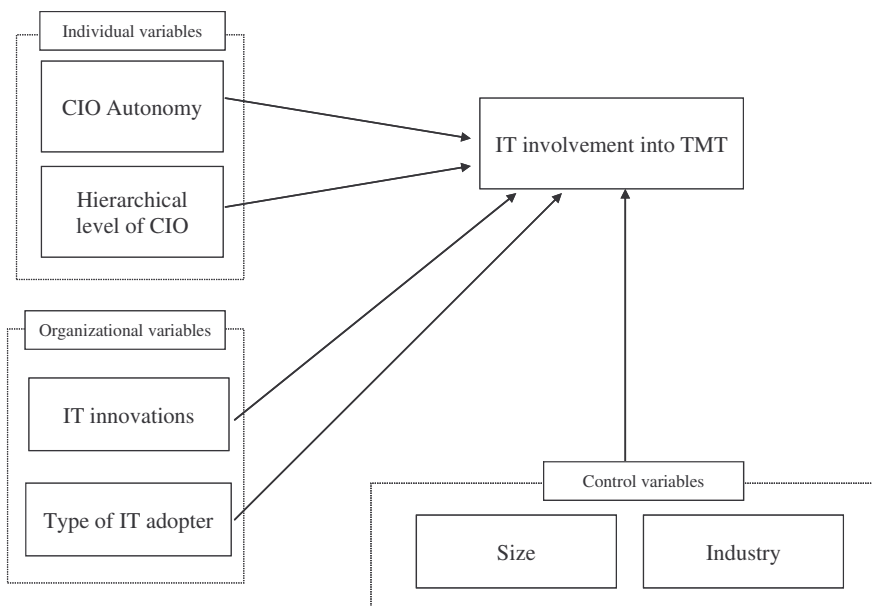


Fig. 1.1 - Conceptual model

IT involvement into TMT. Rockart et al. (1996) argue that in order to achieve two-way strategic alignment of the IT unit and the business unit, the IT responsible must be either a formal or at least an informal member of the TMT.

The IT responsible involved into TMT has the opportunity, first, to interact with other top managers, and, second, to explain and address the main IT management issues.

Individual variables. The strategic role of IT can influence organization in different ways (Armstrong and Sambamurthy, 1999; Schein, 1992), such as automating, informing up, informing down, and transforming. The reporting level of IT responsible can influence the perceived authority, and the actions of the TMT (Hambrick and Mason, 1984; Kaarst-Brown, 2005).

The IT responsible who reports directly to the CEO could directly affect the strategic address (Applegate and Elam, 1992).

The effectiveness of IT responsible depends on the involvement level of IT responsible into the top management team (Lando, 1998).

Thus, it is possible to formulate the following research hypotheses:

H1: Higher levels of IT responsible autonomy will be positively related to IT involvement into TMT

H2: Higher reporting level of IT responsible will be positively related to the IT involvement into TMT

Organizational variables. Some studies point out that organizations adopt innovations to improve their performance (Fichman, 2004). These studies are consistent with an efficiency-choice perspective (Tan and Fichman, 2002; Abrahamson, 1991). Users may play an important role in influencing the adoption process of innovations (Kettinger and Lee, 2002). Thus, IT responsible can play a pivotal role in such adoption process of innovations.

Indeed, as mentioned above, the IT involvement into TMT provides the IT responsible with the opportunity to interact with TMT, and to explain and address the main IT management issues. Saloner and Shepard (1995)

underscore that the propensity to adopt an innovation is positively related to the perceived benefits.

Then, the number of adopted IT innovations (e.g. ERP systems, CRM systems) can be related to the TMT interest in the IT issues (Boynton, et al., 1994; Lederer and Mendelow, 1989). Moreover, the status of organization as IT innovation adopter can be related to the IT involvement into TMT. According to Rogers (2003), the adoption stage is also related to the IT involvement into TMT. The IT involvement level into TMT for organizations classified as early adopters is different compared with the IT involvement level into TMT for organizations classified as, for example, innovators or early majority. It is possible to formulate the following research hypotheses:

H3: Higher number of IT innovations is positively related to the IT involvement into TMT

H4: Higher stage of the innovation adoption process is positively related to the IT involvement into TMT

Control variables. The individual and organizational antecedents of the IT involvement into TMT could exert a different influence based on the behavior of the following two variables: size and industry. For that reason, analyses also consider these two as control variables.

3. Method

3.1 Study context

Analyzing the definitions proposed in literature, a research design is “the arrangement of conditions for the data collection and analysis in a manner that aims to combine relevance to the research purpose with economy in procedure” (Selltiz, et al., 1976).

There are many works in IT literature about the relevance of qualitative (i.e. case study) and quantitative (i.e. survey) research methods (Benbasat, 1984; Benbasat et al, 1987; Boland and Hirschheim, 1987; Franz and Robey, 1987; Galliers, 1991; Kaplan and Duchon, 1988; Kraemer and Dutton, 1991; Lee, 1991; Mumford, 1991; Mumford et al, 1985; Nissen et al, 1991b; Orlikowski and Baroudi, 1991; Visala, 1991).

The research design we used in this study is the survey.

The survey research is a quantitative method that requires standardized information from and/or about the subject being studied which could be individuals, groups, organizations and so on.

The domain of the research is the diffusion and adoption process of Voice over IP (VoIP) technology by Italian firms. VoIP is a collection of hardware, software and network infrastructures for voice communications using Internet Protocol. It can be considered a new communication technology (Basaglia et al., 2008). According to Rogers (1986, p. 2) a communication technology is “the hardware equipment, organizational structures, and social values by which individuals collect, process, and exchange information with other individuals”. In particular, VoIP represents an emerging communication technology that can be a source of competitive advantage and/or a trigger for organizational change.

In Italy, VoIP has already involved two of the five adopter categories proposed by Rogers (2003), i.e. innovators and early adopters. This characteristic allows a better analysis of diffusion phenomenon and a more precise test of the research model.

Data were collected between June and July 2006. Data were gathered through computer-assisted telephonic interviews (CATI method) based on a structured questionnaire (Singleton and Straits, 1999). The telephonic interview method allows clarifying or restating questions that respondent does not at first understand (Singleton and Straits, 1999).

The questionnaire was developed using a multi-stage iterative procedure. First, an initial set of items was constructed drawing upon prior work. Next, the questionnaire was tested on a sub-sample of 50 firms. Results of pilot test led to further refinement of the questionnaire.

A total of 1361 IT responsible were interviewed. A stratified random sampling was created for representing Italian firms with more than 10 employees. The definition and description of VoIP were communicated to respondents to improve the accuracy of responses. 436 questionnaires were excluded due to the high number of missing data. Analyses have been performed on 925 organizations' responses, yielding to a response rate of 68% which is consistent with previous research on adoption (e.g. Teo et al., 2003). Data were analyzed using the SPSS Statistical package.

3.2 Measures

IT involvement into TMT. Respondents were asked whether they participate in the following organizational boards and committees: board of directors, executive board, strategic committee, budget committee (adapted from Jarvenpaa and Ives, 1991). Each of the four sub-constructs was assessed with a dummy measure: 1 = yes, 0 = no.

Individual variables. The IT responsible autonomy was operationalized as a formative construct formed by five sub-constructs: the IT responsible autonomy level to define the IT resource management policy, the IT responsible autonomy level to use the IT budget, the IT responsible autonomy level to define the IT infrastructure and IT strategy, the IT responsible autonomy level to decide about consulting and training services, the IT responsible autonomy level to decide about the IT outsourcing management (Broadbent and Kitzis, 2005; Broadbent and Weill, 1993). The five sub-constructs were measured through a seven-point scale (1= zero extent; 7=100 percent extent). For IT responsible hierarchical level, respondents were asked to indicate the number of reporting levels between them and their CEO (Smaltz et al., 2006).

Organizational variables. Respondents were asked whether they already adopted the following three IT innovations: ERP systems, CRM systems, SCM

systems (Shin, 2006). Each of the three sub-constructs was assessed with a dummy measure: 1 = yes, 0 = no. The stage of the innovation adoption process is measured upon the Voice-over-IP innovation adoption, which is in our country at an early stage of adoption. Respondents were asked whether they already adopted such as innovation or whether they intended to adopt it.

Control variables. The organization size was measured using the total number of employees. The industry has been identified on the basis of the Italian industry code (SIC code).

4. Analysis and results

In this paragraph some preliminary findings are presented. Such findings are structured in three sections. Section one presents some descriptive information about the sample. Section two presents evidences for the hypotheses related to the conceptual model proposed. Section three presents some more analyses from which further studies can be developed.

4.1 Characteristics of the sample

Most of the respondents relate to three industries: manufacturing (42,8%), Services (14,7%), and Commerce (10,9%). The complete distribution of frequency by industry is showed in the Fig. 1.2.

In terms of zone, most of the respondents are located in the North of Italy (63,6%), the centre of Italy is represented by 20,5% respondents, and the South and Islands are represented by 15,9% (Fig. 1.3).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Manufacturing	396	42,8	42,8	42,8
	Commerce	101	10,9	10,9	53,7
	Finance	33	3,6	3,6	57,3
	Defense and Public Administration	77	8,3	8,3	65,6
	Health and Social services	92	9,9	9,9	75,6
	Services	136	14,7	14,7	90,3
	Utilities	46	5,0	5,0	95,2
	Others	44	4,8	4,8	100,0
	Total	925	100,0	100,0	

Fig. 1.2 - Company industry

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	North-West	332	35,9	35,9	35,9
	North-East	256	27,7	27,7	63,6
	Centre	190	20,5	20,5	84,1
	South and Islands	147	15,9	15,9	100,0
	Total	925	100,0	100,0	

Fig. 1.3 - Zones

4.2 Hypotheses

Hypothesis 1. Is the IT responsible autonomy level correlated with the IT responsible involvement into TMT?

The analysis is conducted on both adopters and not-adopters respondents' groups. A relationship between IT responsible involvement into TMT and IT responsible autonomy level exists for both groups. The relationships are positive and significant (Fig. 1.4).

Are you an adopter?			Is IT involved into TMT?	IT responsible: average autonomy level
Non adopters	Is IT involved into TMT?	Pearson Correlation	1	,143**
		Sig. (2-tailed)		,002
		N	597	446
	IT responsible: average autonomy level	Pearson Correlation	,143*	,143**
		Sig. (2-tailed)	,002	,002
		N	446	446
Adopters	Is IT involved into TMT?	Pearson Correlation	1	,287**
		Sig. (2-tailed)		,000
		N	328	252
	IT responsible: average autonomy level	Pearson Correlation	,287**	,287**
		Sig. (2-tailed)	,000	,000
		N	252	252

** : Correlation is significant at the 0.01 level (2-tailed).

Fig. 1.4 - Adopters and IT involvement

In terms of industry, the relationship between IT responsible involvement into TMT and IT responsible autonomy level is significant (Fig. 1.5):

- in case of not-adopter organizations, only for manufacturing industry;
- in case of adopter organizations, for manufacturing and commerce industries.

For not-adopter organizations the relationship between IT responsible involvement into TMT and IT responsible autonomy level, analyzed by organization size (in terms of employees), shows a significant correlation only for the large companies (>500 employees) (Fig. 1.6). While for adopter organizations, such a relationship is significant for two organization's size: 10-49 and 50-99 employees (Fig. 1.7).

Are you an adopter?		Company industry		Is IT involved into TMT?	IT responsible: average autonomy level
Non adopters	Manufacturing	Is IT involved into TMT?	Pearson Correlation	1	,197**
			Sig. (2-tailed)		,006
			N	247	195
		IT responsible: average autonomy level	Pearson Correlation	,197**	1
			Sig. (2-tailed)	,006	
			N	195	195
	Commerce	Is IT involved into TMT?	Pearson Correlation	1	-,049
		Sig. (2-tailed)		,789	
		N	44	33	
Adopters	Manufacturing	Is IT involved into TMT?	Pearson Correlation	1	,311**
			Sig. (2-tailed)		,000
			N	149	123
		IT responsible: average autonomy level	Pearson Correlation	,311**	1
			Sig. (2-tailed)	,000	
			N	123	123
	Commerce	Is IT involved into TMT?	Pearson Correlation	1	,604**
		Sig. (2-tailed)		,000	
		N	57	31	
		IT responsible: average autonomy level	Pearson Correlation	,604**	1
			Sig. (2-tailed)	,000	
			N	31	31

Fig. 1.5 - Autonomy and IT involvement

Hypothesis 2. What relationship does exist between IT responsible involvement into TMT and the IT responsible hierarchical reporting?

IT responsible who is involved into TMT mainly reports to the CEO, and in some other cases he reports to a second level of TMT member, such as Financial Manager or Organization and HR Manager. Analyzing such a relationship by organization size and industry, results do not significantly change.

Hypothesis 3. Is there a relationship between IT responsible involvement into TMT and the company innovation capacity?

The company innovation capacity is measured in terms of other IT systems adopted, in particular Enterprise Resource Planning (ERP), Customer Relationship Management (CRM), and Supply Chain Management (SCM) systems.

The analysis is conducted on the adopters group. For all the three systems, the relationship between IT responsible involvement into TMT and innovations exists. Such a relationship is also confirmed by the Independent T-test, which indicates that a mean difference between the two groups (adopters which has IT responsible involved into TMT, and adopters which has IT responsible not involved into TMT) exists (Fig. 1.8). Moreover, results are not influenced by the two control variables: organization size and industry.

Are you an adopter?	Organization size (employees)			Is IT involved into TMT?	IT responsible: average autonomy level	
Non adopters	<10	Is IT involved into TMT?	Pearson Correlation Sig. (2-tailed) N	. ^a 3	. ^a 1	
		IT responsible: average autonomy level	Pearson Correlation Sig. (2-tailed) N	. ^a 1	. ^a 1	
	10-49	Is IT involved into TMT?	Pearson Correlation Sig. (2-tailed) N	1 44	-,147 406	34
		IT responsible: average autonomy level	Pearson Correlation Sig. (2-tailed) N	-,147 34	406 34	1
	50-99	Is IT involved into TMT?	Pearson Correlation Sig. (2-tailed) N	1 213	,130 134	135
		IT responsible: average autonomy level	Pearson Correlation Sig. (2-tailed) N	,130 135	,134 135	1
	100-499	Is IT involved into TMT?	Pearson Correlation Sig. (2-tailed) N	1 237	,132 072	186
		IT responsible: average autonomy level	Pearson Correlation Sig. (2-tailed) N	,132 186	,072 186	1
	>500	Is IT involved into TMT?	Pearson Correlation Sig. (2-tailed) N	1 100	,210* 046	90
		IT responsible: average autonomy level	Pearson Correlation Sig. (2-tailed) N	,210* 90	,046 90	1

Fig.1.6 - Non adopters and Organization size

Are you an adopter?	Organization size (employees)			Is IT involved into TMT?	IT responsible: average autonomy level
Adopters	<10	Is IT involved into TMT?	Pearson Correlation	1	-,570
			Sig. (2-tailed)		,430
			N	8	4
		IT responsible: average autonomy level	Pearson Correlation	-,570	1
			Sig. (2-tailed)	,430	
			N	4	4
	10-49	Is IT involved into TMT?	Pearson Correlation	1	,504**
			Sig. (2-tailed)		,000
			N	99	58
		IT responsible: average autonomy level	Pearson Correlation	,504**	1
			Sig. (2-tailed)	,000	
			N	58	58
50-99	Is IT involved into TMT?	Pearson Correlation	1	,407**	
		Sig. (2-tailed)		,002	
		N	63	53	
	IT responsible: average autonomy level	Pearson Correlation	,407**	1	
		Sig. (2-tailed)	,002		
		N	53	53	
100-499	Is IT involved into TMT?	Pearson Correlation	1	,159	
		Sig. (2-tailed)		,119	
		N	115	98	
	IT responsible: average autonomy level	Pearson Correlation	,159	1	
		Sig. (2-tailed)	,119		
		N	98	98	
>500	Is IT involved into TMT?	Pearson Correlation	1	,042	
		Sig. (2-tailed)		,801	
		N	43	39	
	IT responsible: average autonomy level	Pearson Correlation	,042	1	
		Sig. (2-tailed)	,801		
		N	39	39	

Fig. 1.7 - Adopters and Organization size

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
My company has adopted an ERP system	Equal variances assumed	20,395	,000	-2,801	310	,005	-,154	,055	-,262	-,046
	Equal variances not assumed			-2,795						
My company has adopted a CRM system	Equal variances assumed	29,783	,000	-2,657	309	,008	-,256	,096	-,445	-,066
	Equal variances not assumed			-2,678						
My company has adopted a SCM system	Equal variances assumed	30,402	,000	-2,635	303	,009	-,173	,066	-,302	-,044
	Equal variances not assumed			-2,669						

Fig. 1.8 - Innovation and IT involvement

Hypothesis 4. Is there any relationship between to be early adopters and to be involved (as IT responsible) into TMT?

As stated above, in our context of analysis the adoption process for VoIP systems is at the early stage. Thus, companies who have already adopted this system can be considered early adopters. Considering the year of adoption as an indicator for ranking the early adopters, we verified the relationship between this indicator and the IT involvement into TMT. The correlation table indicates there is no relationship between the two variables. This result is confirmed by the crosstabulation among the two variables (Fig. 1.9 and Fig. 1.10). Controlling this relationship by industry and size, the result does not change. This is due to the fact that the VoIP system is at the early stage. The same analysis should be repeated cross-time in order to verify how the IT responsible involved into TMT can influence the early IT adoption processes.

		When do you decide to adopt the VoIP system?	Is IT involved into TMT?
When do you decide to adopt the VoIP system?	Pearson Correlation	1	-,099
	Sig. (2-tailed)		,072
	N	328	328
Is IT involved into TMT?	Pearson Correlation	-,099	1
	Sig. (2-tailed)	,072	
	N	328	328

Fig. 1.9 - IT involvement and system adoption

		Is IT involved into TMT?		Total
		No	Yes	
When do you decide to adopt the VoIP system?	1998,00	0	3	3
	1999,00	0	2	2
	2000,00	2	3	5
	2001,00	2	7	9
	2002,00	6	6	12
	2003,00	14	14	28
	2004,00	32	22	54
	2005,00	53	69	122
	2006,00	50	43	93
Total		159	169	328

Fig. 1.10 - IT involvement and year of adoption

4.3 Other findings

What is the respondent's involvement level in IT adoption process?

Most of the respondents state that they are quite well involved in the IT adoption process. In fact, 65,6% of respondents agree/strongly agree with this statement (Fig. 1.11).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	,1	,1	,1
	3	2	,2	,2	,3
	4	312	33,7	34,1	34,4
	5	254	27,5	27,7	62,1
	6	347	37,5	37,9	100,0
	Total	916	99,0	100,0	
Missing	System	9	1,0		
Total		925	100,0		

Fig. 1.11 - Respondent's involvement level in IT adoption process

Some of the respondents consider their company as IT adopter, while others

consider their company as intended to adopt an IT. Our results shows that 35,5% of respondents can be considered as adopters, while the 64,5% of respondents as not-adopters (Fig. 1.12).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Non adopters	597	64,5	64,5	64,5
	Adopters	328	35,5	35,5	100,0
	Total	925	100,0	100,0	

Fig. 1.12 - Does the respondent consider its company as a system adopter?

Within all respondents, how many IT responsible are involved in the Top management team?

The percentage of IT responsible involved into TMT is higher within the adopters' respondents than the percentage of IT responsible involved into TMT which are not-adopters' respondents (Fig. 1.13).

Is IT involved into TMT?

Are you an adopter?			Frequency	Percent	Valid Percent	Cumulative Percent
Non adopters	Valid	No	317	53,1	53,1	53,1
		Yes	280	46,9	46,9	100,0
		Total	597	100,0	100,0	
Adopters	Valid	No	159	48,5	48,5	48,5
		Yes	169	51,5	51,5	100,0
		Total	328	100,0	100,0	

Fig. 1.13 - Is IT involved into Top Management Team?

What industries have the most percentage of IT responsible involved in the Top management team?

Three industries have more IT responsible involved into TMT than IT responsible not-involved into TMT: Manufacturing, Finance, Services. In the other industries, the percentage of IT responsible not-involved into TMT is similar or higher than the percentage of IT responsible involved into TMT (Fig. 1.14).

Company industry			Frequency	Percent	Valid Percent	Cumulative Percent
Manufacturing	Valid	No	181	45,7	45,7	45,7
		Yes	215	54,3	54,3	100,0
		Total	396	100,0	100,0	
Commerce	Valid	No	51	50,5	50,5	50,5
		Yes	50	49,5	49,5	100,0
		Total	101	100,0	100,0	
Finance	Valid	No	15	45,5	45,5	45,5
		Yes	18	54,5	54,5	100,0
		Total	33	100,0	100,0	
Defense and Public Administration	Valid	No	61	79,2	79,2	79,2
		Yes	16	20,8	20,8	100,0
		Total	77	100,0	100,0	
Health and Social services	Valid	No	62	67,4	67,4	67,4
		Yes	30	32,6	32,6	100,0
		Total	92	100,0	100,0	
Services	Valid	No	51	37,5	37,5	37,5
		Yes	85	62,5	62,5	100,0
		Total	136	100,0	100,0	
Utilities	Valid	No	28	60,9	60,9	60,9
		Yes	18	39,1	39,1	100,0
		Total	46	100,0	100,0	
Others	Valid	No	27	61,4	61,4	61,4
		Yes	17	38,6	38,6	100,0
		Total	44	100,0	100,0	

Fig. 1.14 - IT involvement into TMT (by industry)

Is there any relationship between the organization size and the IT responsible involvement into TMT?

The relationship between organization size and IT responsible involvement into TMT exists and it is significant. Indeed, such relationship is stronger in the case of adopters (Fig. 1.15).

What are the sponsorship for the adoption project by the TMT, the support by the users, and the users' involvement level in the project team?

The sponsorship for this kind of adoption project is high. In fact, about 50% of the respondents strongly agrees with this statement (Fig. 1.16).

Are you an adopter?			Organization size (employees)	Is IT involved into TMT?
Non adopters	Organization size (employees)	Pearson Correlation	1	,099*
		Sig. (2-tailed)		,015
	Is IT involved into TMT?	N	597	597
		Pearson Correlation	,099*	1
	Sig. (2-tailed)	,015		
	N	597	597	
Adopters	Organization size (employees)	Pearson Correlation	1	,126*
		Sig. (2-tailed)		,022
	Is IT involved into TMT?	N	328	328
		Pearson Correlation	,126*	1
	Sig. (2-tailed)	,022		
	N	328	328	

Fig. 1.15 - Organization size and IT involvement into TMT

The VoIP adoption project is/will be sponsored by TMT

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	25	7,6	8,7
	2	15	4,6	13,9
	3	18	5,5	20,2
	4	27	8,2	29,6
	5	58	17,7	49,8
	6	67	20,4	73,2
	7	77	23,5	100,0
Total	287	87,5	100,0	
Missing System	41	12,5		
Total	328	100,0		

Fig. 1.16 - The system adoption is/will be sponsored by the TMT

From another perspective, users' support to the adoption project is medium-high. In fact, about 60% of the respondents state the users' support to the project range from medium (about 25%), high (about 19%) to very high (about 16%) (Fig. 1.17).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	33	10,1	12,3	12,3
	2	12	3,7	4,5	16,8
	3	30	9,1	11,2	28,0
	4	32	9,8	11,9	39,9
	5	65	19,8	24,3	64,2
	6	52	15,9	19,4	83,6
	7	44	13,4	16,4	100,0
	Total	268	81,7	100,0	
Missing	System	60	18,3		
Total		328	100,0		

Fig. 1.17 - The system adoption is/will be sponsored by the users

Although the above results, users involvement level in the project team is quite low. In fact, more that 65% of respondents state that users' involvement level in the adoption team project is low or very low (Fig. 1.18).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	108	32,9	38,4	38,4
	2	49	14,9	17,4	55,9
	3	30	9,1	10,7	66,5
	4	31	9,5	11,0	77,6
	5	30	9,1	10,7	88,3
	6	13	4,0	4,6	92,9
	7	20	6,1	7,1	100,0
	Total	281	85,7	100,0	
Missing	System	47	14,3		
Total		328	100,0		

Fig. 1.18 - Users are/will be involved in the VoIP project

Analyzing cross-relationships between sponsorship by TMT, support to the project by users, and users' involvement in the project team, the following considerations emerge (Fig. 1.19):

- adoption projects which are sponsored by TMT are correlated with both support to the project by users, and users' involvement level in the project team,

- users who are involved in the project team, are also correlated with the support to the project by users.

		The VoIP adoption project is/will be sponsored by TMT	Company users are/will be involved in the VoIP project team	The VoIP adoption project is/will be supported by company users
The VoIP adoption project is/will be sponsored by TMT	Pearson Correlation Sig. (2-tailed) N	1 287	,122* ,046 269	,205** ,001 257
Company users are/will be involved in the VoIP project team	Pearson Correlation Sig. (2-tailed) N	,122* ,046 269	1 281	,374** ,000 264
The VoIP adoption project is/will be supported by company users	Pearson Correlation Sig. (2-tailed) N	,205** ,001 257	,374** ,000 264	1 268

Fig. 1.19 - Sponsorship by TMT; users involvement in the project; project supported by the users

5. Conclusion

In this final paragraph, the main results are summarized. In particular, the research hypotheses are partially confirmed.

Tab. 1.1 - Hypotheses: summary

Hypothesis	Result
H1	Supported
H2	Supported
H3	Supported
H4	Not supported

H1: Higher levels of CIO autonomy will be positively related to IT involvement into TMT.

The IT responsible involvement into TMT is positively correlated with the IT responsible autonomy level. This is valid for both the two groups: adopters and not-adopters. For not-adopter organizations the relationship between IT responsible involvement into TMT and IT responsible autonomy level, analyzed by organization size, shows a significant correlation only for the large companies (>500 employees). While for adopter organizations, such a relationship is significant for two organization's size: 10-49 and 50-99 employees. In terms of industry, the relationship between IT responsible involvement into TMT and IT responsible autonomy level is significant.

- in case of not-adopter organizations, only for manufacturing industry,
- in case of adopter organizations, for manufacturing and commerce industries.

H2: Higher reporting level of CIO will be positively related to the IT involvement into TMT.

Results confirm this hypothesis. Thus, an higher IT responsible reporting level correspond an higher level of IT responsible involvement into TMT. Analyzing such a relationship by organization size and industry, results do not significantly change.

H3: Higher number of IT innovations is positively related to the IT involvement into TMT.

Also this hypothesis is confirmed. The IT responsible involvement into TMT has a positive correlation with the innovation capacity of organization. Moreover, results are not influenced by the two control variables: organization size and industry.

H4: Higher stage of the innovation adoption process is positively related to the IT involvement into TMT.

This hypothesis is not confirmed. From the analysis, it doesn't emerge any significant relation between the stage of IT innovation and the IT responsible involvement into TMT. Moreover, the result doesn't change even analyzing data by organization size and industry.

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