A Survey on Integrated IS and Competitive Advantage

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Abstract

Purpose of this paper: Using a large-scale sample survey where responses were obtained from CIOs and senior business executives, we provide robust evidence of the "IT organizational assimilation capacity" mediating role and propose a model

Design/methodology/approach: Based on theoretical proposition that IT business value is generated by the deployment of IT and complementary organizational resources, we develop a research model and propose two hypotheses. These are tested with a survey from 466 top managers in Italian companies. The research design included, as control variables, the size of the company. The 466 questionnaires were analyzed in two steps. In the first step, a series construct validations using factor analysis was performed in order to validate the scales. In the second step, a series of analysis using linear regression were performed between the two independent variables and the dependent variable to validate the mediator function of the IT organizational assimilation capacity.

Findings: Data suggest that most firms have not merged IS integration with the right complementary organizational resources. The findings also support the notion that competitive advantage do not arise from replicable resources, but from complex, firm-specific and intangible resources and capabilities. The findings help to explain why some firms struggle while others flourish with the same ITs, and why IT-based advantages tend to dissipate so rapidly

Research limitations/implications (if applicable): Managerial Implications: This research suggests that ITs do not merge themselves automatically with human and business resources. Evolving Leavitt's organization diamond (1965) and using our data, we can sustain that information systems, process, change, flexibility and training are interrelated and mutually adjusting, so when information systems is changed the other components often adjust to dump out the impact of the innovation.

Practical implications The proposed model can be used complimentary to the requirements methods offered by the IS development methodologies, to mitigate their inherent defects in addressing social, organizational and other non-technical issues, when developing a new IS.

What is original/value of paper: This paper proposes a model to be used complimentary to the requirements methods offered by the IS development methodologies

Keywords: organizational, assimilation capacity, information system (IS) integration, EAI

1. Introduction

The purpose of this research is to study the means by which "IS integration" generates an organizational competitive advantage. We suggest that IS integration generates an organizational competitive advantage through the mediation effect of a specific complementary organizational resource: the "IT organizational assimilation capacity". In particular, the IT organizational assimilation capacity refers to firm's ability to identify, assimilate and exploit the business potential from IT/IS solutions. This capacity encompasses

four distinct groups of constructs or dimensions: (a) training (or knowledge) orientation, (b) change orientation, (c) flexibility orientation and (d) process orientation. These dimensions should serve as the basis upon which organizations can be differentiated in their ability to obtain an organizational competitive advantage from investing in IS integration.

IT business value is used to refer to the organizational performance impact of IT resources at both intermediate process level and organization level (Menville and Kraemer 2004). IT resources generate business value when they are "assimilated" becoming a common element of firms' value-chain activities and business strategies (Brynjolfsson and Hitt 1996). According to Menville and Kraemer (2004) IT business value comprises three domains: (a) focal firm; (b) competitive environment; and (c) macro environment. This paper focuses at firm level. Within the focal firm level, IT business value is generated by the deployment of IT resources through a process that involves the deployment of complementary organizational resources within business processes. Referring to technological IT resources there are two categories of studies: studies aggregating diverse technological IT resources into a single measure and studies that examine specific information systems and types of IT. The paper is structured as follows. The next section introduces the research hypotheses, and the conceptual model. Thereafter, the research methodology is presented with the following sections reporting the empirical findings and the conclusions.

2. Research Model and Hypothesis

Based on theoretical proposition that IT business value is generated by the deployment of IT and complementary organizational resources, we develop a research model and propose two hypotheses. In particular, we propose that the IS integration (a relevant IS characteristic) business value is generated by the mediating effect of the IT organizational assimilation capacity (Figure 1). This is because it is a complementary organizational asset that takes years to develop (Kraemer, et al.,2000) and hence, years to successfully imitate: it is rare and difficult to imitate. Thus, differently form the TIR that is increasingly commoditized (Carr 2003), when IT organizational assimilation capacity exist it is likely to lead to temporary competitive advantage. However, in line with above, these hypotheses do not exclude the possibility that other factors may mediate the influence of information system integration.
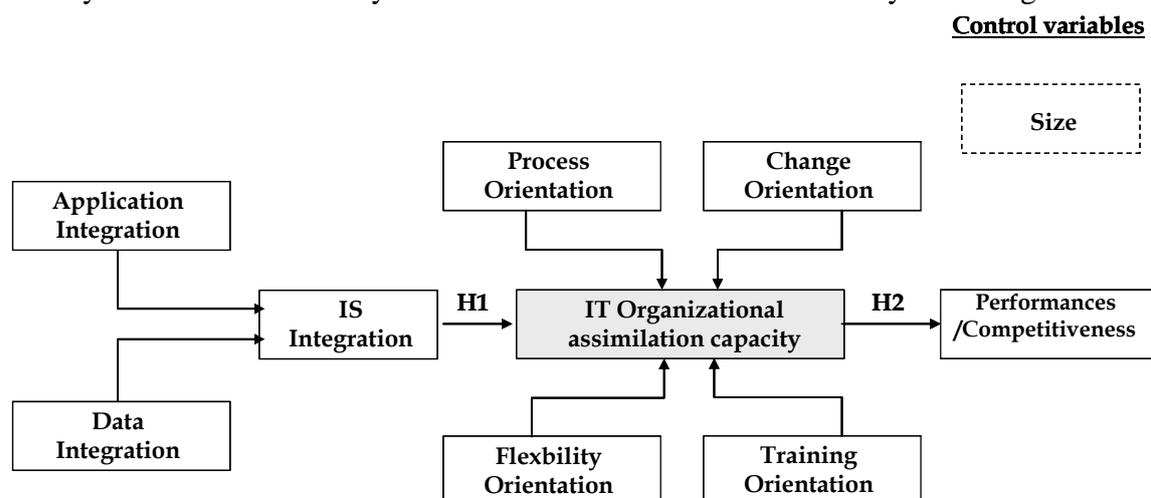
Figure 1: IS integration and the mediating effect of IT organizational absorptive capacity

IT organizational assimilation capacity and firm competitiveness: Although it is possible to apply IT for improved organizational performance with few organizational changes, the IT business value is generated by the deployment of IT and complementary

organizational resources within business processes (Menville and Kraemer 2004). Firm-specific organizational resources tend to be tacit, idiosyncratic and deeply embedded in the organization's social fabric and history. Furthermore, what is not understood is the specific nature of the qualified complementarities, i.e., what specific resources qualify the complementary effect, under what conditions, and how are the attributes of complementary resources related to business process and organizational performance impacts. We take a step towards addressing this knowledge gap by proposing a multi-variable concept defined "IT organizational assimilation capacity" (Figure 1). In particular, we propose four distinct groups of constructs that represent the elements of an on IT organizational assimilation capacity: (a) training (or knowledge) orientation, (b) change orientation, (c) flexibility orientation and (d) process orientation. In addition, we propose that the presence of IT organizational assimilation capacity largely influence on how well the organization assimilates (or absorbs) the business potential of IT, that is, in our case, the "information system integration". This "assimilation capacity" includes devising new IT-ways in which opportunities are recognized, information is assimilated and disseminated throughout the organization, knowledge is distributed and accessed, task are accomplished, etc. As a result IT organizational assimilation capacity may amplify or enhance the organizational effects of IT in general and information system integration in particular. Based on the above, we propose that:

- *Hypothesis 1: Stronger IT organizational assimilation capacity lead to higher level of firm competitiveness*

IS integration and IT organizational assimilation capacity: As explained above, it is clear that complementary organizational resources should interact with IT in the process of value generation. In particular, we argue that IT organizational assimilation capacity mediates the effect of information system integration on firm competitive advantage. Information system integration implies that all functional information systems speak to each other and that functional activities are highly interrelated and should be handled together. Thus, systems' integration should be compulsory coupled with an organizational integration. In particular, the achievement of IS integration needs to be "assimilated" by the organization. It is impossible to carry out information system integration without acting over the firm's organizational capacity to operate in an integrated way. This means that to realize an effective information system integration a firm should work by process, be open to changes required by the integration, have open mind and skilled workers and, be flexible in its operations as a consequence of the improved communications between functional areas. Based on the above, we propose that:

- *Hypothesis 2: Stronger information systems integration leads to higher level IT organizational assimilation capacity*

2.1   Control variables

To fully account for the differences among organizations, we also include organization size as control variable. We use number of employees as measure of organization size. We try to account if SME and large organizations have different mechanisms to assimilate IT and IS solutions and characteristics. Organization size is an important control variable for another reason. IT/IS vendors and systems integrator could have to define different implementation programs in larger client or in SME ones.

3. Construct Operationalization

A survey in Italian companies was conducted to test the hypotheses and data were collected from 466 top managers. These companies were mainly SMEs and owned by a family. We developed the survey instrument by validating all items of different constructs. The following are the variables conceived and measured in this research:

Information System Integration (ISINT): IS integration refers to application (APINT) and data integration (DTINT).

IT organizational assimilation capacity (ITACP): IT organizational assimilation capacity refers to firm's ability to identify, assimilate and exploit the business potential from IT/IS solutions or IT/IS characteristics. To capture the readiness of the organization towards assimilating IT/IS solutions or characteristics we have identified four distinct groups of constructs that represent the elements of the IT organizational assimilation capacity: (a) training (or knowledge) orientation, (b) change orientation, (c) flexibility orientation and (d) process orientation (Figure 1 and Table 1). These dimensions should serve as the bases upon which organizations can be differentiated in their ability to identify (training orientation), assimilate (change orientation and process orientation) and exploit (flexibility, process and change orientation) IS integration.

Educational and training orientation (ETORN): The training activities increase pre-existing knowledge, know-how, and skills possessed by the organization in areas related to the focal innovation (Fichman and Kemerer 199). This variable was operationalized with four-items scale (Table 1): one item referred to educational and training investment in the last three yeas, one item referred to educational and training investment in the next two year and two items referred to the employee propensity to take educational and training course.

Change orientation (CHORN): Change orientation represents the extent to which managers or members of the enterprise are in favour of change and opposite to the organizational inertia (Damanpour 1991). Furthermore, the change orientation of the management and enterprise team has significant shaping effects on organizational culture. This variable was operationalized with four-items scale (Table 1): one item referred to the level of favour to change in general, one item referred to the level of change as a consequence of IS change, another two items referred to the propensity to ask for changing as a consequence of technology advance or new operating needs.

Process orientation (PRORN): A business process orientation culture is a culture that is cross-functional, customer oriented. In operationalization of process orientation construct we used three items (Table 1) by adapting the market orientation framework, described in a process oriented way, by Kohli and Jaworski (1993). In particular, in our three items scale we included: a cross-functional (process) view of the business, a customer focused orientation and an organizational structure that enable this cross-functional organization.

Flexibility orientation (FLORN): The ambiguity of the term Flexibility could be attributed to the many different types or aspects of flexibility on which different studies have focused. In this paper we accept that there exist two types of flexibility: process flexibility and new product flexibility. In line with above, our operationalization of flexibility accommodates this distinction by simply referencing the stimulus for change in organization operations with two-items scale (Table 1). That is, change in organization operations is

stimulated either by the addition of new products or by changes in demands for existing products.

Organization competitive advantage (CPADV): The idea of a sustainable competitive advantage (SCA) surfaced in 1984. For this research an SCA is the prolonged benefit of implementing some unique value-creating strategy not simultaneously being implemented by any current or potential competitors along with the inability to duplicate the benefits of this strategy (i.e. integrating IS). Concentrating on "prolonged benefit" we refer to superior organizational performances. Superior organizational performances, in our study, are designed as four items scale (Table 1). Three items are referred to a subjective measure of financial and economic performance over the previous 3-year period; one item is referred to subjective perception of future sustainability of organization superior performances themselves.

In using subjective performance measures, we assumed, given the senior executives involved, that respondents had sufficient perspective and information to assess their firms' performances relative to competitors. Subjective measures have been widely used in organizational research (Powell and DentMicallef 1997), and are often preferred to economic and financial statement data, since firms may adopt varying accounting conventions in areas such as inventory valuation, depreciation and officers' salaries. In addition, our research includes many privately held firms that would not have provided confidential economic and financial information as a matter of policy. However, as test of convergent validity of the economic and financial performance measures, accounting information were obtained for publicly held survey participants for the same past 3-year period covered by the subjective survey items In this sub sample some economic performance (net operating income, return on equity and return on investment) and some financial index (liquidity index and debt index) correlated significantly with our subjectively derived competitive advantage measure, suggesting that, although the accounting and subjective measures were not identical, the accounting measures did constitute a key element of the respondents' subjective assessments.

4. Data Collection

Items in the questionnaire measured concepts in the research model. Items were measured on a 7-point Likert scale. A draft instrument was qualitatively and quantitatively pre-tested using a panel of experts to make sure that the final version would be equally valid for use with a large sample. We also used unlabeled sorting to develop the constructs. The pilot study ensured clarity of the questionnaire and ascertained that theory-based items tapped issues of concern in IS sourcing decisions. The research design included, as control variables, the size of the company. The 466 questionnaires were analyzed in two steps. In the first step, a series construct validations using factor analysis was performed in order to validate the scales. In the second step, a series of analysis using linear regression were performed between the two independent variables and the dependent variable to validate the mediator function of the IT organizational assimilation capacity. In the first, construct validation step, we defined seven variables (CPADV, DTINT, APINT, ETORN, CHORN, PRORN and FLORN). In this step, the construct validation was developed in two stages. During the first stage, we used a factor analysis for each of the seven variables to discard the items that would not aggregate well in one factor, since these would not be a reliable tool for measurement of the variable. For each variable, we extracted the items with a higher loading factor (higher than 0.7) and with an inter-items reliability Cronbach's Alpha equal to or higher than 0.7. Upon completion of the first stage, at least three items for each variable were retained, with the exception of flexibility orientation that was operationalized with two items. Table 1 gives an overview of

the items being considered, their factor loadings and their Cronbach's Alpha for each variable.

Measurement item	α	Factor Loadings
DEPENDENT VARIABLE		
• Organization Competitive Advantage – CADV	0.828	
y_1 - Last three years our economic performances were higher than that of similar companies		0.874
y_2 - Last three years our financial performances were higher than that of similar companies		0.868
y_3 - So far we have been able to achieve all the objectives better than similar companies		0.761
y_4 - Our economic and financial perspectives for next years are better than that of similar companies		0.747
INDIPENDENT VARIABLES		
Information System Integration -ISINT	0.894	
• Data Integration – DTINT		
x_1 - In my company the customers file is unique for all application software		0.867
x_2 - In my company the products file is unique for all application software		0.872
x_3 - In my company all application software use the same database		0,862
x_4 - In my company we use batch procedures to transfer data among databases		0,886
• Application Integration – APINT	.785	
x_5 - In my company application systems are predisposed to be fully integrated		0.778
x_6 - In my company sales and purchasing systems are integrated		0.832
x_7 - In my company warehouse and invoicing systems are integrated		0.801
x_8 - In my company accounting and reporting systems are integrated		0.712
IT Organizational Assimilation Capacity – ITACP		
• Educational and Training Orientation – ETORN	0.892	
x_9 - In my company education and training investments have increased in the last 3 years		0.874
x_{10} - In my company education and training investments will increase in the next 2 years		0.819
x_{11} - In my company all employees follow education and training courses		0.890
x_{12} - In my company employees are used to acquire new skills by following education and training courses		0.889
• Change Orientation – CHORN	0.815	
x_{13} - In my company people accept easily changes that impact their organizational positions		0.777
x_{14} - In my company people accept easily changes in information systems that impact their way of operating		0.859
x_{15} - In my company people ask actively for renewing information systems in order to be phased with advances in technology		0.789
x_{16} - In my company people ask actively for renewing information systems according to their operating needs		0.780
• Process Orientation – PRORN	.735	
x_{17} - In my company collaboration among different functions and departments is highly developed		0.825
x_{18} - Collaboration among different functions and departments has helped in greatly reducing time-to-market		0.823
x_{19} - In case of problems the first thing we do is to gather all people able to solve it, independently from the department they belong to		0.785
• Flexibility Orientation – PRORN	0.829	
x_{20} - My company is able to quickly adjust production capabilities to market variations		0.924
x_{21} - My company is able to quickly adjust commercial offerings to market variations		0.920

Table 1: Factor analysis and reliability analysis for the seven variables

In the second stage of variables validation, we performed a confirmatory factor analysis with all the seven variables (Table 2) to assess if the items, validated during the first step, would still be reliable and would aggregate together in seven distinct factors (one for each of the variables), when considered together and not separately as in the first stage. The analysis confirmed the expectations and we are confident that all devised items are actually a reliable measure of variables.

Measurement item	Factors						
DEPENDENT VARIABLE	1	2	3	4	5	6	7
• Organization Competitive Advantage – COADV							
y_1 – CoAdv1	**0.864**	0,025	0,111	0,038	0,046	0,139	0,056
y_2 – CoAdv2	**0.843**	0,053	0,091	0,196	0,052	0,094	0,033
y_3 – CoAdv3	**0.650**	0,053	0,089	0,045	-0,036	0,230	0,273
y_4 – CoAdv4	**0.732**	0,069	0,022	0,100	0,194	-0,113	0,164
INDIPENDENT VARIABLES							
Information System Integration -ISINT							
• Data Integration – DTINT							
x_1 - DtInt3	0,021	**0,842**	0,207	-0,090	0,043	0,073	0,017
x_2 – DtInt2	0,063	**0,891**	0,112	0,149	0,102	0,016	0,027
x_3 - DtInt3	0,079	**0,790**	0,244	0,151	0,007	0,060	0,179
x_4 - DtInt4	0,064	**0,834**	0,284	-0,007	0,093	-0,067	0,050
• Application Integration – APINT							
x_5 – ApInt1	-0,147	0,366	**0,649**	-0,024	0,024	-0,101	0,170
x_6 - ApInt2	0,207	0,200	**0,788**	-0,063	-0,055	0,104	-0,085
x_7 - ApInt3	0,071	0,322	**0,702**	-0,085	-0,006	0,055	0,026
x_8 - ApInt4	-0,147	0,366	**0,649**	-0,024	0,024	-0,101	0,170
IT Organizational Assimilation Capacity – ITACP							
• Educational and Training Orientation – ETORN							
x_9 – TtOrn1	0,130	0,019	0,034	**0,764**	0,087	0,254	0,153
x_{10} – TtOrn2	0,143	0,054	-0,109	**0,729**	0,198	0,137	-0,008
x_{11} – TtOrn3	0,079	0,040	-0,023	**0,882**	0,087	0,115	0,121
x_{12} – TtOrn4	0,043	0,033	0,008	**0,831**	0,212	0,112	0,142
• Change Orientation – CHORN							
x_{13} – ChOrn1	-0,144	0,099	0,043	0,308	**0,688**	0,158	0,189
x_{14} – ChOrn2	0,139	0,081	-0,015	0,069	**0,873**	0,124	0,150
x_{15} – ChOrn3	0,127	-0,009	0,078	0,086	**0,804**	0,036	-0,014
x_{16} – ChOrn4	0,101	0,139	0,098	0,385	**0,617**	0,090	0,228
• Process Orientation – PRORN							
x_{17} – PrOrn1	0,163	0,000	-0,031	0,131	0,370	**0,743**	0,012
x_{18} – PrOrn2	0,104	-0,044	-0,005	0,241	0,059	**0,701**	0,380
x_{19} – PrOrn3	0,065	0,085	0,004	0,265	0,029	**0,724**	-0,018
• Flexibility Orientation – FLORN							
x_{20} – FlOrn1	0,239	0,116	0,051	0,197	0,187	0,109	**0,808**
x_{21} - FlOrn1	0,248	0,142	-0,009	0,182	0,225	0,090	**0,764**

(*) Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 7 iterations.

Table 2: Confirmatory factor analysis*

	CPADV	APINT	DTINT	CHORN	PRORN	FLORN	ETORN
CPADV	1						
APINT	.221**	1					
DTINT	.113	.558**	1				
CHORN	.212**	.101	.71	1			
PRORN	.254**	.050	.126*	.446**	1		
FLORN	.361**	.122	.121*	.357**	.319**	1	
ETORN	.176**	.006	.111	.420**	.451**	.256**	1

Table 3: Variables correlation table

The integration factors are highly significantly correlated amongst themselves, and the organizational factors are highly significantly inter-correlated amongst themselves. The correlations across these two types of factors (integration factors with organizational factors) is comparatively small. Thus, it seems that there are two relatively independent factors reflected in the correlation matrix, one related to integration, the other related to organizational ones. Then, we built a high order factor analysis (or second order factor analysis) to uncover the patterns of relationships among these factors correlation matrix.

		N	Percentage (%)
TYPE OF BUSINESS	Manufacturing	241	51,7
	Service	192	41,2
	Other	33	7,1
OWNERSHIP	A family	156	33,4
	Other	310	66
PART OF AN HOLDING STRUCTURE	Yes	173	37,1
	No	293	63,9
SIZE	SME	396	84,9
	LARGE COMPANIES	70	15,1

Table 4: Second order factor analysis*

The analysis confirmed the existence of two latent factors. We called these two factor information systems integration and IT organization assimilation capacity. Following the high order factor analysis, to test for the mediation effect (Baron and Kenny 1986) of IT organizational assimilation capacity variable, we estimated the three following regression equations: first, regressing the IT organizational assimilation capacity variable on the information system integration variable; second, regressing the organization competitive advantage variable on the information system integration variable; and third, regressing the organizational competitive advantage variable on IT organizational assimilation capacity variable and information system integration ones. In detail, we estimated the following three linear regression models:

$$ITACP = Constant + \beta_1 \, ISINT + \varepsilon$$
$$COADV = Constant + \beta_1 \, ISINT + \varepsilon$$
$$COADV = Constant + \beta_1 \, ISINT + \beta_2 \, ITACP + \beta_3 \, SIZE + \varepsilon$$

These three regression equations provide a positive the test of the linkages of our hypotheses and our mediation model. In detail:

As shown in Table 5 (model 1), the independent variable (information systems integration - ISINT) affect the mediator (IT organizational assimilation capacity - ITACP). In detail, in model 1 the ISINT variable is statistically significant with a 99% level of confidence, $\square$ = .118. As a consequence, our hypothesis one is supported.

Model1 - Dependent Variable: ITACP (IT organizational assimilation capacity)	*Unstandardized Coefficients -Beta*			
	Beta	*Std. Error*	*t*	*Sig.*
(Costant)	3.572	.226	15.802	.000
Information system integration – ISINT	.118	.045	2.610	0,010

Table 5: Linear regression model 1

As shown in Table 6 (model 2), the independent variable (information systems integration) affect the dependent variable (organization competitive advantage).In detail, in model 2 the ISINT variable is statistically significant with a 99% level of confidence, $\square$ = .171

Model1 - Dependent Variable: COADV (Organization competitive advantage)	*Unstandardized Coefficients -Beta*			
	Beta	*Std. Error*	*t*	*Sig.*
(Costant)	3.446	.300	11.497	.000
Information system integration – ISINT	.171	.061	2.812	.006

Table 6: Linear regression model 2

As shown in Table 7 (model 3), only the mediator variable (IT organizational assimilation capacity - ITACP) affect the dependent variable (organization competitive advantage - COADV). In detail, in model 3 the ISINT variable became statistically insignificant and the ITACP variable is statistically significant with a 99.9% level of confidence, $\square$ = .493. As a consequence, Hypothesis two is supported. Further, the mediation effect is supported (the coefficient of the independent variable became insignificant when the mediator variable is controlled).

Model1 - Dependent Variable: COADV (Organization competitive advantage)	*Unstandardized Coefficients -Beta*			
	Beta	*Std. Error*	*t*	*Sig.*
(Costant)	1.984	.499	3.976	.000
Information system integration - ISINT	.100	.061	1.631	.105
IT organizational assimilation capacity - ITACP	.493	.099	4.975	.000

Table 7: Linear regression model 3

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.197[a.]	.039	.033	.86153
2	.219[b]	.048	.042	1.07937
3	.428[c]	.183	.167	1.01595

Table 8: Model summary

We can conclude (Figure 2) that the information systems integration effect on organizational competitive advantage is mediated by the IT organizational assimilation capacity.
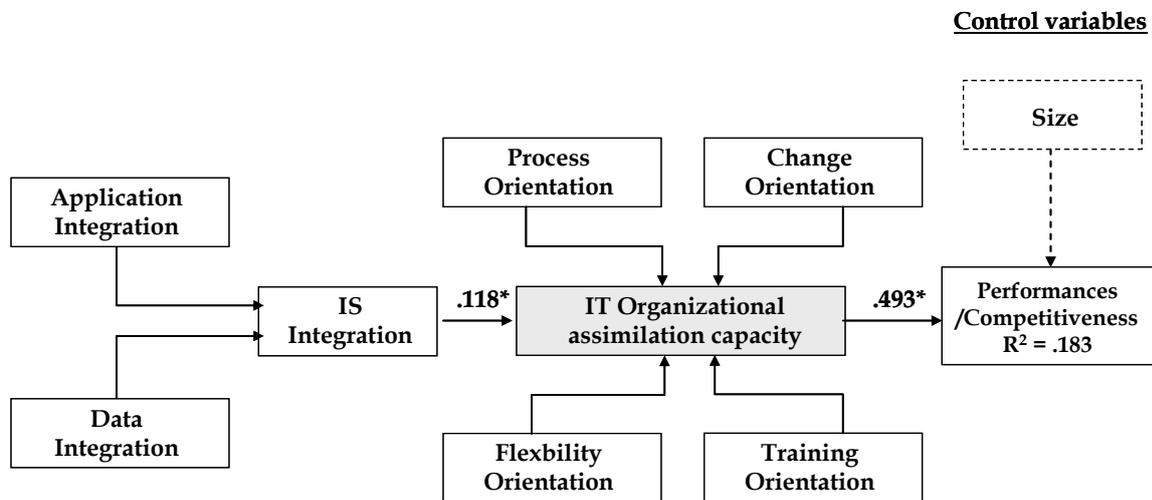
Figure 2: Regression analysis results

5. Discussions and Conclusions

In this study, data suggest that most firms have not merged IS integration with the right complementary organizational resources. The presence of investments in training, change, process and flexibility orientation, or in summary in "IT organizational assimilation capacity", explained performance differences between firms. From this, we suggest that, although firms have invested sufficiently in IS integration to negate direct IT advantages,

some firms gained IT-related advantages by merging IS integration with IT organizational assimilation capacity resource. The findings also support the resource based notion that competitive advantage do not arise from replicable resources, no matter how pervasive or economically valuable they may be, but from complex, firm-specific and intangible resources and capabilities. Furthermore, the empirical findings suggest that IS integration do not merge themselves automatically with human and business resources. We can indicate that the process requires an organizational design that improves the IT organizational assimilation capacity. We agree with the Kettinger et al., (1994) observations that "the information resources of a firm must be driven by business strategy and integrated into the product and process dimensions of the enterprise" (Kettinger, et al.,1994). Firms that improve "IT organizational assimilation capacity" also improve their capacity to integrate or "embed" information system integration, and more in general ITs, inside the enterprise. The findings help to explain why some firms struggle while others flourish with the same ITs, and why IT-based advantages tend to dissipate so rapidly; and they suggest a solution based on an integration of IT and organizational complementary resources. We conclude, that information system integration carry enormous competitive power but, like other powerful weapons, misfire in the wrong hand. In the end, we find ourselves supporting the seemingly universal intuition that tells managers "technology alone is not enough".

Managerial Implications: Our research suggests that ITs do not merge themselves automatically with human and business resources. Evolving Leavitt's organization diamond (1965) and using our data, we can sustain that information systems, process, change, flexibility and training are interrelated and mutually adjusting, so when information systems is changed the other components often adjust to dump out the impact of the innovation. Many agents and units in organizations get their influence and autonomy from their control over these data and information. They will not readily give that up. In many instances new information systems represent a direct threat and they respond accordingly. So what should companies do? From a practical standpoint, the most important lesson to be learned from this research is that they should develop a specific capability: the "IT organizational assimilation capacity". This capability becomes essential to competition and consequential to strategy. Companies should invest to create an IT organization assimilation capacity being able to separate essential investments from ones that are discretionary, unnecessary, or even counterproductive. The time has come for IT buyers to become IT-Organizational buyers to negotiate contracts that ensure the long term usefulness of their IT investments. The key success for the vast majority of companies is to invest by balancing IT investments and IT organizational assimilation capacity ones. Referring to IT organizational assimilation capacity, companies should invest simultaneously in process, change, flexibility and training aspect.

Finally, this paper proposes a model to be used complimentary to the requirements methods offered by the IS development methodologies, to mitigate their inherent defects in addressing social, organizational and other non-technical issues, when developing a new IS. It aims at broadening the horizons of the requirements elicitation and analysis phases by providing a systematic framework for organizing and ranking some activities which are sometimes obvious or implicit or hidden or intuitive during the implantation process. Thus, it is enriching and formalizing the requirements produced by the other requirements implementation methods in a holistic way. Our model attempts to tailor the IS implementation so that the new IS will fit into its business environment, i.e. the particular organizational context it is destined to operate in.

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