

**The Role of People and Social Context in Promoting the IT Organizational
Performance: Evidence from Portugal**

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This is a post-print (ie final draft post-refereeing) of an article published in *Personnel Review* (ISSN: 0048-3486), available online at:

<http://www.emeraldinsight.com/doi/pdfplus/10.1108/PR-02-2015-0034>

Citation: Martinho, José L., Gomes, Carlos F. e Yasin, Mahmoud M. (2016), “The role of people and social context in promoting the IT organizational performance”, *Personnel Review*, 45(5), pp. 1087 -1107.

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Structured Abstract:

Purpose – Motivated by the increasing role of information technology (IT) in today's organizations, this study examines the relationships between business and IT executives in order to improve the organizational performance of the different aspects of IT technology and related systems. In the process, special attention is given to drivers which facilitate the cooperation between the parties involved.

Design/methodology/approach – This survey-based research utilizes structural equation modeling methodology to uncover the relevant variables pertaining to the promotion of a positive social and strategic context needed to increase the effectiveness of organizational IT facets.

Findings – The effectiveness of IT in modern organizations is contingent on a social alignment, business – IT alignment, strategic consistency, and common vision among the people who manage the IT function and those who need the organization.

Research limitations/implications – This study is based on a sample of Portuguese manufacturing organizations. Therefore, findings and conclusions should be interpreted accordingly. In this context, future research in other organizational cultural settings is called for in order to refine and validate the results of this study.

Practical implications – The role of establishing an organizational culture which stresses the common goal and mutual trust and cooperation in creating effective IT organizational utilization is underscored. As such, business executives are encouraged to exercise their leadership skills in order to create an organizational strategy which aligns IT capabilities and investments with the competitive strategy of the organization. In this context, creating an organizational culture which promotes business – IT alignment in a healthy social context is necessary.

Originality/value – The issues and concerns addressed in this study should bridge the gap between business and IT executives. In the process, this study facilitates and encourages the effective utilization of the different facets of IT technology as they better serve the people of the organization. This advances the cost and practice of the strategic organizational role of IT investments.

Keywords: Shared knowledge, Strategic Alignment, Trust, IT performance management, Business value of IT, IT Business Alignment.

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1. INTRODUCTION

Today's open systems organizations are being challenged by a competitive environment, which demands more and more superior performance. In such increasing competitive environment, the survival of the fittest is not a mere slogan, rather it is everyday reality. Therefore, today's organizations are attempting to blend their tangible and intangible resources and competencies in order to craft a systematic and dynamic strategic vision, capable of continuously improving organizational performance.

The human resources, when combined with the right technology and procedures, tend to foster an organizational culture and strategies, which are performance improvement drivers. The integration of information technology (IT) with the right human resources capabilities might lead to strategic and social organizational alignments, which has the potential to promote the trust and cooperation between IT executives and business executives. Such trust goes a long way toward having a common strategic vision for the entire organization. This vision should capitalize on the strategic potential of IT, as an important component of the organizational overall strategy.

In the last several decades, some organizations were guilty of chasing technological innovations as an end, rather than a mean toward improved organizational strategic performance. As a result, the systematic and strategic deployment of a well-coordinated common vision for IT and business was overlooked.

The literature reviewed showed several survey-based studies, which examined the important concepts and relationships, related to the effective utilization of IT (Table 1). However, in each of these studies the lack of some important variables and relationships were noted. As such, an exploratory empirical investigation, which incorporates and integrates much of the identified relevant variables is justified. This is true, especially in light of the open system business model utilized by today's business organizations. In such a system, information is the essence of the openness of the system. Therefore, understanding the nature of those information related and business related variables is essential toward effective organizational performance.

Insert table 1

In this context, the objective of this study is to shed some light on the nature of the interactions between IT and business executives. In the process, the impact of such interactions on organizational performance is examined. The extent of interactions among four dimensions: the trust between business executives and IT executives, the relationships between IT executives and business executives, the cross-competencies between them, and IT-business social alignment are especially emphasized in this study. For this purpose, a sample of business executives and IT executives from Portuguese manufacturing organizations was used to gather the relevant information.

Motivated by the practical relevance of such research, the following research questions will be addressed:

- Are business executives and IT executives sharing the same vision of how IT tangible and intangible resources should be utilized to support competitive organizational performance?

- What are the key IT drivers of organizational performance from the perspectives of both IT and business executives?
- To what extent does trust between IT and business executives facilitate common strategic vision leading to better organizational performance?
- Finally, what is the role of organizational culture in aligning social and IT-business relationships toward better organizational performance?

In the process of examining these questions, a structural equation model uncovers relevant relationships between the studied variables. Based on the results derived from the structural equation model, a conceptual framework is advocated to facilitate the organizational effort to improve the strategic role of IT resources. As such, this research presents a modest step toward advancing the art and practice of the effective utilization of IT in improving organizational performance.

2. BACKGROUND AND HYPOTHESES

The influence of information technology (IT) on organizational performance has been a research topic of interest in the literature. However, no consensual results relating to the nature of this influence have been reached (Dehning & Richardson 2002; Masli et al. 2011). Business organizations can achieve competitive advantage by mobilizing and combining organizational resources and capabilities (Wade & Hulland 2004). These resources, usually intangible in nature, should be valuable, rare, difficult to imitate, and non-substitutable. In this context, a unique combination of IT with other related organizational resources can be the key to improve the competitiveness of business organizations (Bharadwaj 2000).

2.1 The IT-business social alignment

IT-business alignment has been reported as a major concern to IT and business executives (Tallon & Kraemer 2003; Abareshi 2011; Kappelman et al. 2014). According to the literature, IT-business alignment maturity will improve the information systems effectiveness, the organizational performance, and therefore, the competitive advantage of business organizations (Luftman & Kempaiah 2007; Byrd et al. 2006; Kearns & Lederer 2003; Charoensuk et al. 2014).

IT-business alignment can be defined in different dimensions (Chan & Reich 2007; Gregor et al. 2007; Leonard & Seddon 2012). The strategic dimension refers to the degree to which business and IT strategies are integrated and complement each other. The social dimension refers to the mutual understanding and commitment between business executives and IT executives, and it includes the state in which they share a common vision about the contribution of IT to the success of the business (Johnson & Lederer 2005; Reich & Benbasat 1996). In this context, the convergence of ideas and practices between business and IT experts, regarding the potential of technology in supporting business activities, seems to improve IT innovation and financial performance (Srivardhana & Pawlowski 2007; Johnson & Lederer 2005). Therefore, it is suggested that an increase of information sharing between IT executives and business executives should improve organizational performance. Formally:

H1. The IT-business social alignment positively influences organizational performance.

2.2 The IT-Business relationship

The IT-business relationships are intangible organizational resources identified in the literature, as essential to delivering superior organizational performance (Karahanna & Preston 2013). A strong relationship between IT executives and business executives seems to be strategically important (van den Hooff & de Winter 2011; Day 2007). Some key factors, such as the partnerships and mutual understanding between IT and business executives, and the strength of the IT-business relationships were identified as possible drivers to improve the competitiveness of business organizations (Wagner et al. 2014; Bharadwaj et al. 1999; Feeny & Willcocks 1998).

The IT assimilation by the organization seems to be improved by the interaction between IT executives and business executives (Armstrong & Sambamurthy 1999; Cereola et al. 2013). According to the literature, improving the relationship between the IT and the non-IT organizational resources should promote the IT-business alignment, and therefore improve the organizational performance (Bhatt & Grover 2005; Kearns & Lederer 2003; Karahanna & Preston 2013). As such, one of the requirements for the IT-business alignment is the existence of a strong relationship between IT and business executives (Wagner & Weitzel 2012; Chan & Reich 2007; Gregor et al. 2007).

Communication was identified as an important factor for the convergence of opinions, and mutual understanding about the role of IT within the organization (Johnson & Lederer 2005; Karahanna & Preston 2013). The level of communication between IT and business executives seems to have a positive influence on the alignment of IT with business objectives (Reich & Benbasat 2000; Tarafdar & Qrunfleh 2010). In this context, the frequency of communication between business executives

and IT executives, using richer communication channels, can improve the common understanding of the strategic role of IT in the organization (Johnson & Lederer 2005).

A close relationship between the IT and non-IT staff is a key factor for the IT-business alignment and could be enhanced with formal or informal structures (Karimi et al. 2000; Prasad et al. 2010; Wu et al. 2015). On one hand, the creation of IT steering committees may provide a way to improve the integration of technical and business knowledge, and also IT-business coordination mechanisms (Bowen et al. 2007; Nolan & Mcfarlan 2005; Teo & King 1997; Karimi et al. 2000). As such, communication is ensured, and the mutual understanding of the IT role within the organization can be achieved. On the other hand, informal organizational structures based on trust can also improve the cross-communication between IT and business executives. They can be even more important for the IT-business alignment than the existence of formal structures (Chan 2002).

In this context, the IT executives' participation in business management and the business executives' participation in IT management are needed in order to improve the IT-business alignment, and to promote the utilization of information technologies in the development of the organizational strategy (Devece 2013; Kearns & Lederer 2003). Thus:

H2. IT executives' participation in business management processes is positively associated with the IT-business social alignment.

H3. Business executives' participation in IT management processes is positively associated with the IT-business social alignment.

2.3 Cross-competencies between IT and business executives

The fusion of business knowledge, with IT knowledge, is also an intangible organizational resource that seems to promote the strategic utilization of information technologies (Peppard & Ward 2004; Chao & Chandra 2012). The interaction between IT executives and business executives, along with the integration of their knowledge, may be increased in the presence of cross-competencies between them (Lin et al. 2014; Štemberger et al. 2011). In this context, these cross-competencies can be a driver of the organizational performance improvement, through the creation of a mutual understanding and the utilization of a common language between them (Nelson & Coopriider 1996; Huang 2010; Reich & Benbasat 2000).

Business and managerial competencies of IT executives can increase the top management support of IT, close the IT-business gap and foster the level of integration between IT and business planning processes (Teo & King 1997; Štemberger et al. 2011). Specific knowledge about the organizational processes should enable IT executives to understand the nature of the business and therefore achieve a better IT-business alignment (Reich & Benbasat 2000; Huang 2010). Business competences of IT professionals can be a key factor in developing the relationship with business executives. These competences can enable them to better understand the business domain, speaking the business language, and interacting with their business partners (Bassellier & Benbasat 2004).

The IT knowledge of business executives allows them to better communicate with IT professionals. It helps business executives to better understand the strategic value of IT for the business organization (Bassellier et al. 2003; Cereola et al. 2013), and, in the process, enhances their ability to champion innovative IT application (Lin et

al. 2014). The business executives' knowledge of IT also increases the joint participation of IT and business executives in the organizational strategic planning processes, which improves the strategic alignment (Grover S Kearns & Sabherwal 2007).

Literature also refer to the cross-competencies between IT executives and business executives as a shared domain of knowledge (Ranganathan & Sethi 2002; Armstrong & Sambamurthy 1999; Charoensuk et al. 2014). The existence of this shared domain of knowledge can influence different dimensions of the organizational performance. This includes the assimilation and effective use of IT (Armstrong & Sambamurthy 1999), and the alignment between IT and the business executives (Chan et al. 2006; Reich & Benbasat 2000; Huang 2010). Also, this includes the rational planning of IT (Ranganathan & Sethi 2002).

In this context, it seems that the cross-competences between IT and business executives can be an intangible competitive resource, which should be used to improve the organizational performance. Therefore, the following hypotheses are formulated:

H4. Business competences of IT executives positively influence:

- a) Their participation in business management processes
- b) IT-business social alignment

H5. IT competences of business executives positively influence:

- a) Their participation in IT management processes
- b) IT-business social alignment

2.4 The trust between business executives and IT executives

Trust between individuals or groups could be defined as the degree of reciprocal faith in others' intentions, behaviors, and skills towards organizational goals (Lee & Choi 2003). The development of trust between individuals with different characteristics and backgrounds provides a mechanism that enables them to work together and collaborate with each other more effectively (Mayer et al. 1995; Pinjani & Palvia 2013). Trust is essential to provide an appropriate environment for the creation and sharing of organizational knowledge (Qi & Chau 2013).

Trust between individuals from different functional areas is strongly correlated with the extent of resources exchanged, which in turn promotes organizational innovation (Tsai & Ghoshal 1998). Trust can improve information sharing (Nahapiet & Ghoshal 1998; Papoutsakis & Valles 2006) and knowledge creation (Lee & Choi 2003).

The existence of trust between IT professionals and business managers, can increase the shared knowledge between them, which might positively contribute to IT outsourcing success (Qi & Chau 2013) and the IT overall performance (Wagner & Weitzel 2012; Nelson & Coopriider 1996). Thus:

H6a. Trust between IT and business executives positively influences the participation of business executives in IT management processes.

H6b. Trust between IT and business executives positively influences the participation of IT executives in business management processes.

3. METHODOLOGY

3.1 Instrument

The research instrument used in this study has been designed based on an

extensive literature review. The first phase of the instrument development included translation and adaptation to the Portuguese manufacturing environment. In the second phase, the instrument was presented to a panel of experts, including both practitioners and academics. Special attention was paid to the use of terminologies and vocabulary consistent with the background of the participants. This objective was achieved after a few iterations.

For the purpose of this study, the final version of the research instrument is composed of forty-four (44) questions¹. These questions are organized in seven sections corresponding to the constructs identified by literature (Table 2). For each of the questions included in the instrument, business executives were asked to give their opinion using a 1 to 7 Likert-type scale.

Insert table 2

3.2 Sample

For the purpose of this study, the sample used was obtained from the database maintained by the Statistics Portugal official agency. This database includes one thousand four hundred and ninety-eight (1498) manufacturing organizations with more than fifty (50) employees, and total revenue of five (5) million euros or more. Two similar research instruments were sent to all these organizations. One instrument was addressed to the Chief Financial Officers (CFO), and the other instrument was sent to the Chief Information Officers (CIO). CFOs were chosen because they are in a better position both to assess the organizational performance and to decide about IT costs

¹ The research instrument is available from the first author upon request

and investments (Sohal & Fitzpatrick 2002; Kaarst-Brown & Kelly 2005). Most of the times the CIO reports to CFO (Banker et al. 2011). The CIO is the counterpart most times addressed in similar studies (Fink & Neumann 2007; Grover S. Kearns & Sabherwal 2007; Preston et al. 2006)

After a systematic calling contact to all the organizations, some organizations were dropped due to several reasons, such as, not working anymore, lack of autonomy to decide about business investments, and lack of autonomy to change IT resources.

Therefore, the final sample was one thousand two hundred and forty-nine (1249) manufacturing organizations.

One hundred and forty-one (141) responses were received from CFOs, resulting in a response rate of 11.3%. The participating executives were asked to provide information regarding sales revenue, number of employees, and industry type of its organization (see Table 3).

Insert Table 3

Seventy-seven (77) responses were received from CIOs, resulting in a response rate of 6.2%. The participating CIOs were also asked to provide information regarding sales revenue, number of employees, and industry type of its organization (see Table 4). The response rates of both surveys were relatively low, but consistent with similar studies (Lin & Pervan 2003; Magal et al. 2009; Trigo et al. 2007).

Insert Table 4

4. ANALYSIS AND RESULTS

The data obtained from the participants was analyzed using a structural equation modelling (SEM) approach. The maximum likelihood was used as the estimation

method. For the purpose of the SEM analysis, all relevant assumptions were verified and found to be satisfied. This estimation method assumes the normality of data. The univariate normality was confirmed by skewness and kurtosis values. The test of Mardia (1970) did not confirm the multivariate normality of the data. Usually, estimated parameters are not affected by the lack of normality of the data (Finch, West, & MacKinnon, 1997). However, in order to avoid estimation problems, the bootstrapping method and the Satorra-Bentler (S-B) corrections were utilized for the χ^2 test and adjustment indices (Satorra & Bentler 1988).

Due to the nature of collected data, the common method variance was checked to verify the existence of problems with response-bias (Podsakoff et al. 2003). Harman's test was used for checking common method variance (Harman 1976). The results suggest that common method variance was not a significant problem in the data set. The psychometric properties of the instrument were checked in terms of unidimensionality, internal consistency, convergent and discriminant validity of each construct.

Unidimensionality was checked by an exploratory factor analysis. Eight factors were extracted with eigenvalues greater than one, representing 76.6% of the variance and 0.926 in the Kaiser-Meyer-Olkin test (Kaiser 1974). In the solution with varimax rotation, all items were assigned to the factor for which they were selected by literature, except three. After verifying that they do not affect the content validity of the constructs, the three items were dropped. All retained items generated coefficients greater than 0.6 (Hair et al. 2009).

The measurement model was checked by a confirmatory factor analysis using the maximum likelihood estimator. All coefficients were positive and statistically significant at the 0.001 level. Internal consistency was assessed by Cronbach's α and the composite reliability indicator. The lower value is well above the proposed threshold value of 0.70 (Hair et al. 2009). The convergent validity was evaluated by t-tests of all coefficients and also the average variance extracted of each latent variable (O'Leary-Kelly et al. 1998). The extracted average variance of all constructs is higher than 50% which shows the convergence of the indicators with the respective construct (Fornell & Larcker 1981). The discriminant validity was tested by comparing the average variance of each construct extracted with the shared variance with the other constructs, given by the square of the correlation between two constructs (Fornell & Larcker 1981).

4.1 The perception of the Chief Financial Officers

All the estimated coefficients of the measurement model are positive and statistically significant ($\chi=0.001$)². Although the existence of significance for the chi-square, the SRMR (0.068), the RMSEA (0.067), the CFI (0.98) and TLI (0.97) indicate a good fit of the model to the data obtained from CFOs (Hu & Bentler 1999; Hair et al. 2009).

Based on the results of the structural model used to analyze the perception of CFOs (Figure 1) it seems that the social alignment between business executives and IT executives is a very important intangible resource which can be used to promote organizational performance improvement (H1). Therefore, factors affecting the mutual

² All the coefficients generated by the estimation of the measurement model and the goodness-of-fit measures most used by literature are available from the first author upon request.

understanding and commitment between IT executives and business executives should be analyzed.

Insert Figure 1

Based on the perception of CFOs, it was confirmed that the social alignment between them and their counterparts responsible for IT resources are influenced by the following two organizational variables:

1. The involvement of IT executives in the decisions related with the business management (H2).
2. The involvement of business executives in IT resources management (H3).

Our study uncovered a very important relationship not previously tested by literature:

3. The existence of trust between business executives and IT executives can directly positively influence the IT-business social alignment.

Although the results of the first two variables can be improved through organizational management procedures, the trust will depend on the willingness of both executives.

Based on the results of this study, it seems that the trust between business executives and IT executives is influenced by IT competences of business executives and by business competences of IT executives. This means that cross-competences between IT and business executives is also an intangible competitive resource, which should be used to improve the organizational performance.

According the perception of CFOs, the IT competences of business executives tend to have direct influence on the involvement these executives have in the management of IT resources (H5a) as well as on the business competences of IT

executives. Perhaps, this may indicate the CFOs are realizing the importance of their IT competencies, as they exercise their organizational leadership role.

Finally, it is to be noted that an increasing involvement of business executives in the management of IT resources seems to positively influence the involvement of IT executives in the management of the business processes.

4.2 The perception of the Chief Information Officers

All the estimated coefficients of the measurement model are positive and statistically significant ($\chi=0.001$)³. Although the existence of significance for the chi-square, the SRMR (0.067), the RMSEA (0.020), the CFI (0.98) and TLI (0.98) indicate a good fit of the model to the data obtained from CIOs (Hair et al. 2009; Hu & Bentler 1999).

According to the perception of CIOs (Figure 2) it seems that IT executives' involvement in the business management is determinant to promote the organizational performance improvement, through the effective utilization of information technologies. For CIOs, this involvement in the business management is directly influenced by the involvement of business executives on the management of the IT resources, following the same perception of their counterparts. These two relationships were not previously tested by literature.

Insert Figure 2

Based on the results, business executives' involvement in IT resources management is influenced by their competencies in IT (H5a). It is also influenced by

³ All the coefficients generated by the estimation of the measurement model and the goodness-of-fit measures most used by literature are available from the first author upon request.

the trust between them and their counterparts in charge of IT resources management (H6b).

According to the perception of CIOs, the existence of trust between business executives and IT executives is positively influenced by the business competencies of IT professionals.

Finally, it is to be noted that the social alignment between business executives and IT executives is not identified by CIOs as an important intangible resource. However, it is confirmed that it is positively influenced by the level of involvement of business executive in IT management (H3). They also agree that IT-Business social alignment it is positively influenced by the trust between IT executives and business executives following the same perception of their counterparts, and confirming the importance of this relationship.

5. CONCLUSION

This study attempted to explore the relevant relationships defining the interactions among the different elements of IT and business. Based on the results of the structural modelling analysis the following conclusions are in order.

First, the existence of two different perceptions regarding the direct drivers, which influence organizational performance, is detected. On one hand, the CIOs with a more closed-system and operational vision of the manufacturing organization, tend to believe that their involvement in the organizational management decision process could have a direct influence on the organizational performance, through a more effective utilization of the IT resources. On the other hand, the CFOs with a more open-system and strategic vision of the manufacturing organization, tend to believe

that the mutual understanding and cooperation between IT executives and business executives could have a direct influence on the organizational performance. The lack of relevance assigned by the CIOs to this mutual understanding is noted. The literature tends to refer to such mutual understanding as IT-business social alignment (Johnson & Lederer 2005; Reich & Benbasat 1996; Chan & Reich 2007).

Second, the central role of the trust between IT and business executives is underscored by the findings of this study. The CFOs, with their strategic view of the organization, tend to stress the importance of the trust between them and their IT counterparts as an intangible resource. Based on their perception this intangible resource tends to have direct influence on IT-business social alignment. Furthermore, they perceive this intangible resource as having a direct impact on their involvement in the management of IT resources. It is also to be noted that the trust between IT and business executives tends to have an indirect influence on the involvement of IT executives in business management decision process, and on the organizational performance.

While CIOs also tend to agree with their business counterparts with regard to the importance of trust, they tend to put less emphasis on it.

Third, although with different opinions relating how to extract more organizational performance from IT intangible resources, both CIOs and CFOs agree on the leading role of business executives promoting the improvement of these intangible resources. This leadership recognition is very important in creating an information sharing culture, which can be used to promote a truly organizational open-system.

Finally, it seems that level of divergence between CIOs and CFOs related to the effective utilization of IT intangible resources in order to improve organizational

performance can be a serious obstacle to achieving competitiveness in the global market.

5.1 Contributions

This study makes several contributions to the literature. Perhaps the more important contribution of this study is rekindling a very important discussion that was latent but has been dormant for a while. Based on the extensive literature review, it seems that researchers have been focusing on IT tangible resources. This might be attributed to the high level of innovation on information technologies during the last two decades. In the process of focusing on the productivity/efficiency of these technologies it appears that the role of the people in making such technologies effective was forgotten.

This study also contributes to the literature as it confirms some of the results from previous studies. As such, the IT competences of business executives tend to facilitate their participation in IT management, which confirms both the results obtained by G. Bassellier et al. (Bassellier et al. 2003) and by Kearns & Sabherwal (Grover S Kearns & Sabherwal 2007).

Previous studies have shown that trust between IT executives and business executives could improve IT performance (Nelson & Coopriider 1996), and lead to a competitive advantage (Bhatt & Grover 2005). This study confirms the indirect impact of trust among these two groups on organizational performance, and maps the way to achieve it.

Our results with regard to the influence of the cross-competencies between IT and business executives on the IT-business social alignment are not consistent with

literature (Reich & Benbasat 2000), showing the role of cross-participation and trust among IT and business executives. Perhaps future research should attempt to shed more light on this issue.

The contribution of this study validates important intangible resources that are confirmed by the perceptions of both CFO and CIO:

- The positive influence of the trust between business executives and IT executives on the social alignment between them.
- The influence of the involvement of business executives in IT management on the involvement of IT executives in business management.

It is to be noted that the sample used in the study is specific in nature as it pertains to Portugal. Future research is needed and encouraged in order to test and validate the studied relationships in different business cultural settings. Such research, will contribute to the refinement of the practices and the theoretical propositions dealt with in this study.

5.2 Implications for business executives and IT executives

This study provides practicing business executives and IT executives with useful information regarding effective utilization of information technologies. It has significant and direct implications to the effectiveness of organizational information systems.

Overall, according to the Portuguese surveyed executives, it seems that trust between business executives and IT executives is one of the major drivers to improve social alignment, and therefore organizational performance. This influence is not only direct but also indirect, through the interaction between them. In this process,

business executives should assume the leadership in order to promote this organizational interaction. Their participation in IT management leads to a greater participation of IT executives in business management and influences directly IT-business social alignment. Finally, cross-competencies between IT and business executives influence their cross-participation in the other's area and also influence the level of trust between them. Once again, business executives should lead this process, as those more technological skilled demand IT executives with higher levels of business competences.

In order to get the most value from IT, companies should promote cross-competences between IT and business executives, develop a trust-based environment, and promote the cross-participation of them. The results points to the crucial role of business executives on the effective utilizations of these intangible resources. Their IT competences seem to promote their participation in IT management and attract IT managers to the sphere of business. In this context, it is important to emphasize the win-win nature of the relationship between these executives. Improving organizational performance provide the motivation for such relationship.

The conceptual framework provided in Figure 3 offers a roadmap to organizations toward the effective strategic use of the IT resources in support of a common strategic vision which promotes organizational performance. The staircase open system approach depicted in the figure emphasizes a total organizational approach to creating a culture and strategy which foster the strategic trust and common vision between IT executives and their business executives' counterparts.

The advocated approach in this framework might be useful for practicing managers and researchers toward advancing the practice and art of effective

performance of the IT competency of the organizational strategy. Future research should investigate the relationships examined in this study in other cultural business settings. The conceptual framework proposed might be used to provide a context of such research effort.

Insert Figure 3

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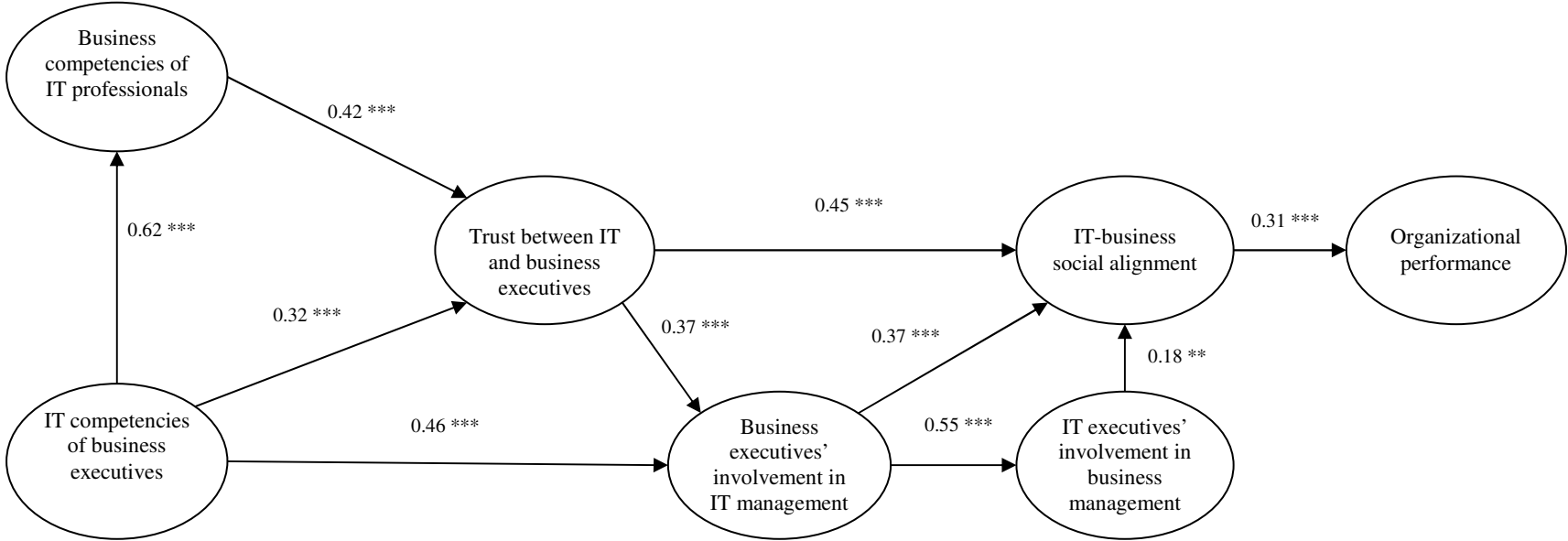
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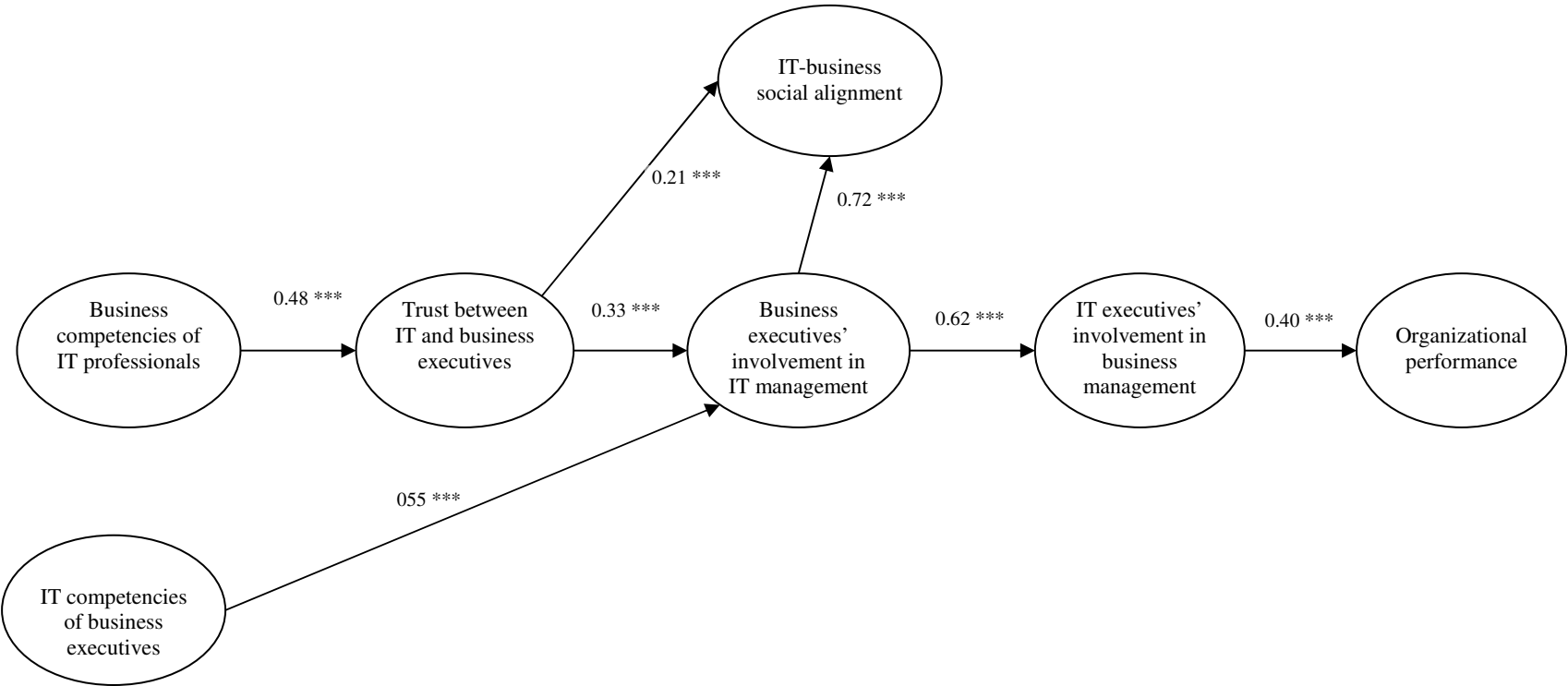
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Figure 1 – Results of the structural model related to CFOs



Notes: *** p<0.001; ** p<0.01; * p<0.05

Figure 2 – Results of the structural model related to CIOs



Notes: *** p<0.001; ** p<0.01; * p<0.05

Figure 3 – Facilitating organizational superior performance through the strategic application of Information technologies

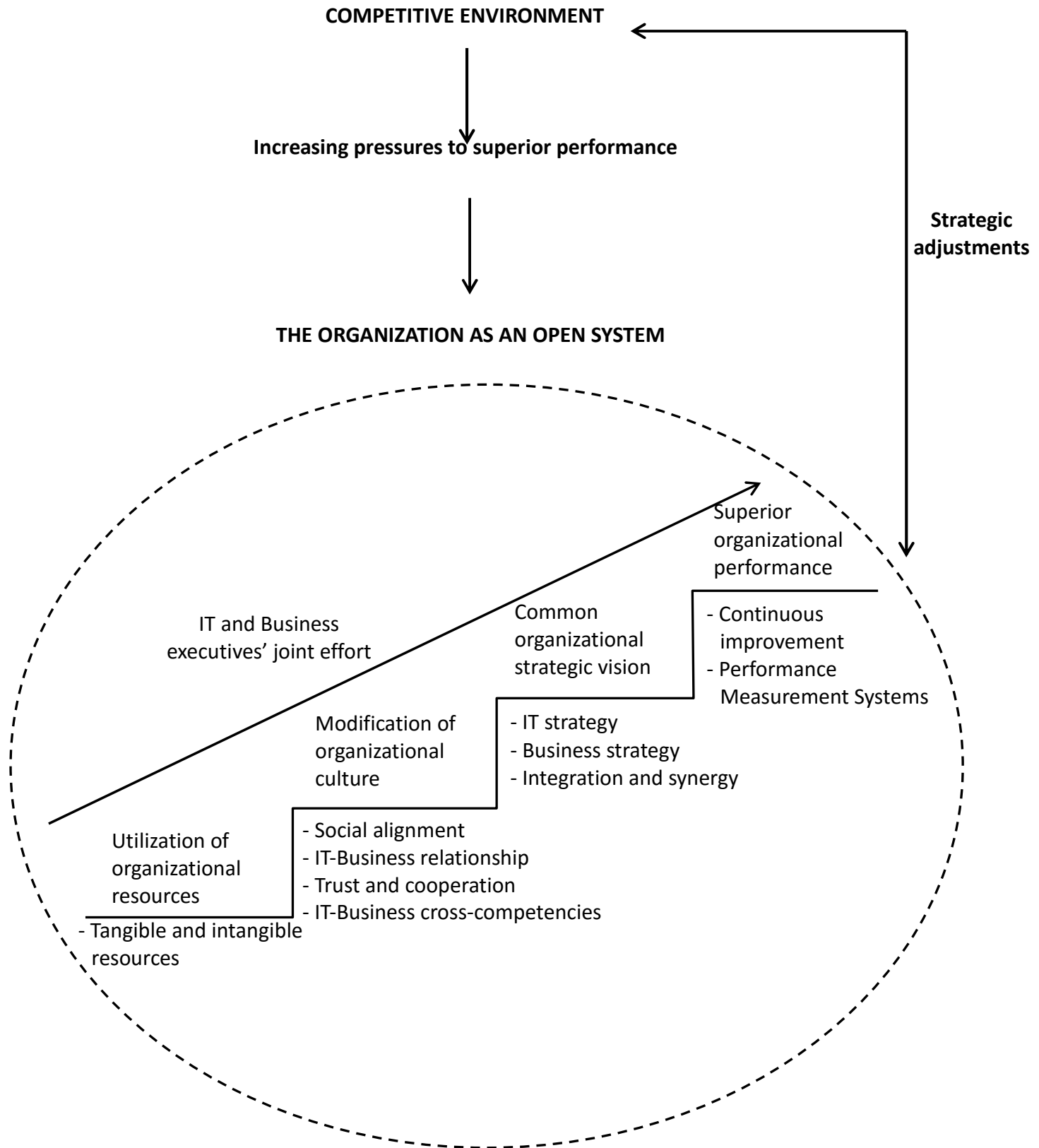


Table 1 – Survey-based studies reviewed with IT-business interaction variables

Article	Constructs	IT-Business relationship	IT-business cross-competencies	IT-business social alignment	Organizational performance
Armstrong & Sambamurthy (1999)		-----	CIO business knowledge; TMT IT knowledge	-----	IT assimilation
Bassellier et al. (2003)		-----	Business Managers' IT competence	-----	-----
Benbasat et al. (2004)		-----	Business Competence of IT professionals	-----	-----
Bhatt & Grover (2005)		Relationship infrastructure	IT Business Expertise	-----	Competitive advantage
Boynton et al. (1994)		-----	Managerial IT knowledge	-----	-----
Chan et al. (2006)		-----	Shared Domain knowledge	-----	Organizational success
Johnson & Lederer (2005)		Communication frequency and richness	-----	Convergence about the future role of IT	-----
Karimi et al. (2000)		Steering Committees Roles	-----	-----	-----
Kearns & Lederer (2003)		The CIO participates in business planning; The CEO participates in IT planning	-----	-----	IT is used for competitive advantage
Kearns & Sabherwal (2007)		IT manager's participation in business planning; Business manager's participation in strategic IT planning	Top manager's knowledge of IT	-----	Business impact of IT
Nelson & Coopride (1996)		Mutual Trust	Shared knowledge	-----	IS performance
Ranganathan & Sethi (2002)		-----	Shared domain knowledge	-----	
Ravichandran & Lertwongsatien (2005)		IS partnership quality	IS Human capital	-----	Firm performance
Reich & Benbasat (2000)		Communication between IT and business managers	Shared domain knowledge	Social alignment	-----
Teo & King (1997)		-----	IS competence	-----	-----

Table 2 – Constructs operationalization

Constructs	Literature support
Business competences of IT professionals	(Byrd & Turner 2000); (Benbasat et al. 2004); (Chung et al. 2005)
IT competences of business executives	(Bassellier et al. 2003); (Kearns & Sabherwal 2007)
IT executives' participation in the business management	(Kearns & Lederer 2003)
Business executives' participation in IT management	(Kearns & Lederer 2003); (Bassellier et al. 2003)
Trust between IT and business executives	(Lee & Choi 2003)
IT-Business social alignment	(Preston et al. 2006)
Organizational performance	(Lee & Choi 2003)

Table 3 – CFO respondent profile

Item	Frequency	Percentage
Manufacturing Industries		
Food products, beverages and tobacco	9	6.4%
Textiles and textile products	16	11.3%
Leather and leather products	4	2.8%
Wood and wood products	6	4.3%
Pulp, paper and paper products; publishing and printing	9	6.4%
Chemical products, chemical products and man-made fibers	10	7.1%
Rubber articles and plastic products	6	4.3%
Other non-metallic mineral products	10	7.1%
Basic metals and fabricated metal products	19	13.5%
Machinery and equipment n.e.c.	5	3.5%
Electrical and optical equipment	9	6.4%
Transport equipment	8	5.7%
Industry, n.e.c.*	3	2.1%
Not reported	27	19.1%
Total	141	100.0%
Sales revenue (.000€)		
From 5.000 to15.000	68	48.2%
15.001 to 40.000	28	19.9%
More than 40.000	22	15.6%
Not reported	23	16.3%
Total	141	100.0%
Number of employees		
From 50 to 99	45	31.9%
From 100 to 250	60	42.6%
More than 250	18	12.8%
Not reported	18	12.8%
Total	141	100.0%

* Industry, n.e.c. includes industries with less than three occurrences.

Table 4 – CIO respondent profile

Item	Frequency	Percentage
Manufacturing Industries		
Food products, beverages and tobacco	9	11,7%
Textiles and textiles products	8	10,4%
Pulp, paper and paper products; publishing and printing	4	5,2%
Chemical products, chemical products and man-made fibers	5	6,5%
Rubber articles and plastic products	6	7,8%
Other non-metallic products	7	9,1%
Basic metals and fabricated metal products	6	7,8%
Electrical and optical equipment	7	9,1%
Transport equipment	7	9,1%
Furniture and mattresses	5	6,5%
Industry, n.e.c	4	5,2%
Not reported	9	11,7%
Total	77	100.0%
Sales revenue (.000€)		
From 5.000 to15.000	16	20.8%
15.001 to 40.000	11	14.3%
More than 40.000	9	11.7%
Not reported	41	53.2%
Total	77	100.0%
Number of employees		
From 50 to 99	7	9.1%
From 100 to 250	26	33.8%
More than 250	14	18.2%
Not reported	30	39.0%
Total	77	100.0%

* Industry, n.e.c. includes industries with less than three occurrences.