Organizational and Technological Infrastructures Alignment

Anne-Marie Croteau¹  Simona Solomon¹  Louis Raymond²  François Bergeron³

¹Concordia University  ²Université du Québec à Trois-Rivières  ³Université Laval
Montreal, Canada, H3G 1M8  Trois-Rivières, Canada, G9A 5H7  Québec, Canada, G1K 7P4
croteau@alcor.concordia.ca  louis_raymond@uqtr.uquebec.ca  francois.bergeron@fsa.ulaval.ca

Abstract
The objective of this empirical study is to find ways that best support business performance through the alignment of organizational and technological infrastructures. Adapting Tapscott and Caston's infrastructure themes, the organizational infrastructure includes components such as common vision, cooperation, empowerment, adaptability and learning, and the technological infrastructure addresses dimensions such as user involvement, connectivity, distributed computing, flexibility and technology awareness. Top managers from 104 organizations completed a questionnaire. The data analysis is performed using Structural Equation Modeling techniques such as EQS. The results indicate that the organizational and technological infrastructures alignment enhances the business performance.

1. Introduction

It is widely posited that to leverage information technology (IT) functionality, business operations and IT investments should be strategically coordinated and closely aligned [44, 62, 34, 27, 15, 49, 56, 1]. To fully exploit IT, the firm’s business strategy must be integrated with its IT strategy. Moreover, to fully leverage IT functionality, organizational and technological infrastructures should be integrated and aligned.

The Strategic Alignment Model proposed by Henderson and Venkatraman [34] argues that for a strategic alignment to exist, both external and internal fits must exist. This model indicates that to realize a successful strategic alignment of IT with the business strategy, companies should coordinate components such as business strategy, IT strategy, organizational infrastructure and technological infrastructure. External fit occurs when both IT and business strategies are consistent with key environmental contingencies, and internal fit occurs when IT strategy and technological infrastructure are consistent with the business strategy and the organizational infrastructure. The model advocates strong business/technology linkages and can be fittingly applied in the current competitive, information-based era as it is business process-driven and advocates enterprise-wide information management.

The literature reports some empirical studies on the alignment between business and IT strategies [18, 59, 12, 20]. Other empirical studies feature organizational and technological issues, such as technological infrastructure [26, 56], information systems and organizational design [58, 17].

So far, no research directly addressed the operational integration between the organizational and technological infrastructures which corresponds to the lower quadrants of the Strategic Alignment Model of Henderson and Venkatraman [34]. The objective of this study is to empirically validate the fit between the organizational and technological infrastructures and determine how their co-alignment enhances business performance. To perform such validation, new scales for the two types of infrastructures are developed and tested, and Structural Equation Modeling with the EQS technique is used to provide statistical support.

2. Theoretical background

In this study, the main topics under review are the organizational infrastructure, the technological infrastructure, the infrastructure alignment, the contingency theory and the concept of fit, and the business performance.

2.1. Organizational infrastructure

The organizational infrastructure refers to choices pertaining to the particular configurations and internal arrangements intended to support the organization’s chosen position in the market [47]. Organizational infrastructure is defined by Henderson and Venkatraman [34] in terms of three dimensions. The first one,
organizational design, includes choices about organizational structure, roles, responsibilities, and reporting relationships. The second dimension refers to the processes, which articulate the workflow and associated information flows for carrying out key organizational activities. The last one, called skills, indicates the choices about the capabilities of organizational members needed to accomplish the key tasks that support a business strategy. Organizational infrastructure also delineates choices in the decision-making processes and accountabilities appropriate to the strategic orientation of the firm [15]. Moreover, the infrastructure encompasses issues such as resourcing, work design, education, training, and human resource management policies [4].

Organizational infrastructure also refers to the internal configurations and arrangements involving organizational structure, business processes, work design, training and education that intend to support the firm’s business strategy. It includes components proposed by Tapscott and Caston [57], such as common vision, cooperation, empowerment, adaptability and learning.

A firm’s vision describes the firm’s overarching goal or objective for the organization. A firm’s vision is a statement of purpose and a photograph of the firm’s future, which sets the priorities for business planning and establishes criteria for investments [38].

Cooperation is a joint behavior toward a particular goal of common interest that involves interpersonal relationships [48]. Cooperation is also described as working with others productively and resolving conflict in an effective manner [31]. As environments become more interrelated, an individual’s job and tasks are interdependent with the jobs and tasks of other individuals [23], and to manage knowledge people must be better collaborators [53].

Organizational empowerment refers to a working style that is autonomous in terms of making and executing decisions in the work environment. Empowerment has been defined as ‘enhancing personal control by fostering involvement and inclusion in the decision-making process’ [3].

Adaptable environment is an internal state of an organization that is flexible and responsive to the changing market and customer needs. Flexible forms, such as organic organizational structures, are suited to dynamic business environments [21, 39].

Learning creates value to the firm as individuals become qualified to solve organizational and business problems. A learning organization “is one that facilitates learning by all its members and continually transforms itself by providing a climate for learning both within and outside organizational boundaries; thus, organizational learning is viewed as a metaphor for individual learning” [1, p. 25-26].

2.2. Technological infrastructure

Technological infrastructure provides the shared foundation of the technological capabilities for building business applications, and comprises two layers. The first layer concerns the technological components, such as computer and communications technologies, commodities that are readily available in the marketplace. The second layer refers to a set of shared services such as management of data processing, provision of electronic exchange capability, or management of databases [16]. The technological infrastructure, when viewed in analogy to the organizational infrastructure, can also be defined in terms of three dimensions [34]. The first one is the architecture, consisting of applications, data, and technology, “articulated in terms of the configurations of hardware, software, and communications” [47, p. 155]. The second dimension refers to the work processes, central to the operations of the technological infrastructure such as systems development and maintenance, and monitoring and control systems. The last dimension relates to the skills, which involve knowledge and capabilities required to effectively manage the technological infrastructure. Information technology infrastructure embodies the configuration of technologies, IT work processes, and shared services that build and sustain present and future business applications.

The technological infrastructure addresses dimensions adapted from Tapscott and Caston [57], such as user involvement, connectivity, distributed computing, flexibility and technology awareness.

User involvement refers to a psychological state, a state that reflects a user’s beliefs that a system is both important and personally relevant, and user performance is described as a behavior or attitude during systems use [33].

Connectivity is the extent to which telecommunications networks and computer systems are compatible to support enterprise-wide applications [17]. IT connectivity means technological interdependence, as is evident with the growth of large-scale information infrastructures [56]. Connectivity in the form of global networking supports enterprise-wide applications and interorganizational systems, enables cooperation, and communications [57].

Many organizations have been restructuring their technical resources toward more decentralized business structures in an effort to streamline their operations and increase both efficiency and effectiveness. New IT parallels the organizational goal of empowerment by
distributing information and processing power closer to the user [57].

The current environmental uncertainties give rise to the need for flexibility. Organizations must change more frequently than in the past to adapt to new opportunities. Technology is also expected to exhibit more flexibility and versatility in information acquisition and processing, and in the reduction of response time required to adjust to changes in the company’s definition of its markets [21].

Technology awareness entails a genuine interest in IT, both inside and outside the organization. As new technological innovations appear in the market on a regular basis, practitioners and researchers must maintain an awareness of each other’s efforts [13]. Organizational members need to keep up-to-date on the latest technologies and have sufficient organizational knowledge and technical skills to make the best possible technological investments for their firm [20].

2.3. Infrastructure alignment

To initiate systems integration in an organizational setting, the organizational infrastructure should be aligned with the technological infrastructure [34].

More specifically, the infrastructure alignment is the “functional linkage” between infrastructures that reflects “the need to insure internal coherence between the organizational requirements on one hand, and the delivery capability of the information systems function on the other” [35, p. 9]. Infrastructure alignment, as referred to in this article, is the fit of organization and IT through simultaneous development of infrastructures, where respective design issues are jointly addressed.

2.4. Contingency theory and concept of fit

The theoretical framework of the study of infrastructure alignment and business performance is the contingency theory, which has been the basis for a substantial amount of research concerning organization technology interface [61, 13, 43, 49, 17]. Since contingency theory “attempts to understand the interrelationships within and among organizational subsystems and emphasizes the multivariate nature of organizations” [49, p. 76], a contingent perspective in this research can provide the underlying theoretical base for understanding the integration of the firm’s organizational infrastructure with the technological infrastructure. Moreover, contingency theory offers the base to search for the attributes of the organizational contexts which appear to make a difference, such as implicated in the firm’s infrastructures and strategic orientation, and verify their impact on business performance.

This theory has some important underlying assumptions: 1. **Fit.** The better the fit among contingency variables the better the performance of the firm. The contingency approach suggests that a fit between organizational variables, such as strategy, environment, structure, and the design and use of IS positively impacts IS performance. Furthermore, the theory suggests that there is an assumed fit between IS performance and business performance; 2. **Performance.** Performance is usually defined by financial measures such as return on investment (ROI), profit, or net worth; 3. **Equilibrium.** An organization with fit is at equilibrium, and business performance is the result of that equilibrium [65].

The fit among contingent variables in organizational settings has been researched in the IS literature [58, 21, 27, 49, 24, 51, 11]. The concept of fit was initially studied in the strategy literature, and relationships were postulated with phrases and words such as matched with, contingent upon, consistent with, fit, congruence, alignment, and co-alignment [63]. Strategic alignment or “fit” is a notion that is deemed crucial to understanding how organizations can translate their deployment of information technology into actual increases in performance.

In this research, a holistic rather than a bivariate conceptualization of fit is adopted because of its greater explanatory power and its ability to retain the complex and interrelated nature of the relationships between constructs [25, 46, 64]. Strategic alignment is conceptualized as a process of continuous adaptation and change. It does not matter if the impetus for change originates in organizational infrastructure or is enabled by the technological infrastructure. Rather, it is the resulting co-alignment of all aspects that is important. Central to the research model is the notion of co-alignment. This perspective of fit assumes that there exists a pattern of covariation – which cannot be specified a priori – between business infrastructure and IT that will be positively related to business performance.

2.5. Business performance

The business performance measures the contribution of the business and technology domains to the business objectives of the firm. Both the firm’s external and internal environment affect financial performance [21]. Business performance is linked to the effectiveness of the alignment between the firm’s competitive strategy and the technologies deployed [20]. As businesses invest time and money in technology, they look for a payoff [55], and the quality of the firm’s investments
can be effectively evaluated in terms of growth and profitability [62]. Business performance is defined as the measures of growth and profitability of the firm through its business endeavors and deployment of organizational and technology resources.

3. Methodology

3.1. Research model

The proposed research model illustrated in Figure 1 is a schematic representation of the principal research question: *Can organizations enhance their business performance by aligning their technological infrastructure with their organizational infrastructure?*

![Figure 1. Research model](image)

This research model assesses the two lower quadrants of the Strategic Alignment Model and is designed to test the co-alignment between organizational and technological infrastructures and its impact on business performance. This research model is designed to enhance "understandings about the organization and management of information resources within companies and evaluates the organizational consequences of information technology", as recommended by Robey [52].

For this particular research, the perspective of fit is taken to be the covariation between the organizational infrastructure and the technological infrastructure since they are both consistent and mutually dependent in their effect on the business performance. The infrastructure alignment being measured with the covariation perspective is called the co-alignment. The co-alignment (or infrastructure alignment) is a 2nd-order construct derived from two 1st-order constructs, which are the organizational infrastructure and the technological infrastructure. The business performance is also considered as a 1st-order construct.

One main proposition will test this research model:

**P:** *The co-alignment between the organizational infrastructure and the technological infrastructure positively enhances business performance.*

3.2. Variables

To operationalize the infrastructure alignment, new scales for the two types of infrastructure were developed. These scales were based on the Tapscott and Caston [57] practitioner perspective. This approach pursues one of the recommendations made by Benbasat and Zmud [5] who suggested that "in order for IS research to be more relevant, it is important that authors develop frames of reference which are intuitively meaningful to practitioners to organize complex phenomena and to provide contingency approaches to actions" (p. 11).

Organizational infrastructure is defined as the internal configurations and arrangements involving organizational structure, business processes, work design, training and education that intend to support the firm’s business strategy. It embodies five components: common vision, cooperation, empowerment, adaptability, and learning. Common vision is defined as the collective awareness of the company's overall goal, and consistency in beliefs and assumptions as to the purpose of the firm. Cooperation is referred to as an orientation toward the collective interest where individuals work together to complete tasks. Empowerment is the acquisition of relevant skills and knowledge in the work environment and the ability to make and execute business decisions. An adaptable organization is characterized as one that displays organic form characteristics, and is flexible and yielding to the changing environment. And a learning organization supports individual learning and has norms in place that encourage change and innovation. Organizational infrastructure was operationalized using 42 items adapted from several instruments [41, 14, 45, 35, 48, 66, 36, 3, 42, 1].

Technological infrastructure is defined as the configuration of technologies, IT work processes, and shared services that build and sustain present and future business applications. It includes the following components: user involvement in IS, connectivity, distributed computing, flexibility, and technology awareness. User involvement refers to the personal engagement and collaboration of individuals in all aspects of IT in the organization. Connectivity is understood as the configuration of networks that integrates systems and applications, and enables the access of information from any location, where distributing computing corresponds to the distribution of information and processing power to the user. A firm’s technological infrastructure is characterized as flexible if businesses experience a greater degree of freedom in communication and in information processing capabilities through data and application components.
that are independent, sharable and reusable. Hence, technology awareness is a general concern to acquire IT knowledge and an openness to infuse new technology in the firm. Technological infrastructure was operationalized by adapting several instruments, for a total of 40 items [33, 60, 50, 54, 40, 28, 22, 19, 26, 42].

Business performance is defined as the measures of growth and profitability of the firm through its business endeavors and deployment of organizational and technology resources. It is operationalized using Venkatraman’s instrument [62].

A 5-point Likert-type scale was selected (highly disagree to highly agree) for the organizational and the technological infrastructures and another 5-point Likert-type scale was used for the business performance (very low to very high). For some questions, inverted scales were used.

3.3. Data collection

A large-scale survey was conducted because this research method allows researchers to capture "snapshots of practices at a particular point in time" [30]. The questionnaire, after pre-testing, was addressed to the CEO or to the president of the firm. One month after the initial mailing of the survey package, follow-up reminder cards were sent to the same survey population.

Nine hundred and forty five organizations with two hundred and fifty employees or more were randomly selected from the sample of large-sized firms listed in the Scott’s Selectory Database, a computerized mailing list. A total of 104 questionnaires were completed and usable for our analysis, giving a response rate of 11%. The mean of the total yearly revenues is 1.5 billion dollars. The firms were mainly from the manufacturing and finance industries.

4. Results

Structural equation modeling was used to assess the proposition of the research model, using Bentler and Weeks’ [10] approach as implemented in the EQS computer program [6]. This model was tested by the simultaneous estimation of the measurement and theoretical (or structural) models, using the data from the 104 firms sampled to obtain maximum likelihood (ML) estimates of the path coefficients (γ), loadings (λ), correlations, error variances, and the χ² goodness of fit statistic. As the performance instrument used in this study hypothesizes two dimensions [62], that is, growth (Cronbach’s α = 0.82, 3 items) and profitability (α = 0.84, 5 items), each was used as a separate indicator of the business performance construct.

EQS was chosen as the structural modeling approach instead of the two alternatives most-often used in IS research, namely LISREL and PLS. On one hand, PLS is inappropriate here because it cannot estimate second-order factor structures. On the other hand, EQS has a number of advantages over LISREL [10], the first being its simpler representation system consisting in two sets of variables and three sets of parameter matrices, as opposed to seven and eight sets respectively for LISREL. EQS is also less restrictive in the type of structural coefficients that can be entertained, does not make a priori assumptions on the orthogonality of certain classes of variables, and provides statistics that are “robust” to violation of the normality assumption.

4.1. Assessment of the measurement model

The unidimensionality, reliability, and convergent validity of infrastructure alignment and business performance are assessed by examining the level of fit of the sub-model and the estimated loadings that link both constructs to their respective indicators. Unidimensional measurement in particular is "a necessary condition for assigning meaning to estimated constructs" [2]. Model fit is assessed by looking at the chi-square statistic estimated for the hypothesized model; however, relying exclusively on the χ² is subject to caution in structural equation modeling as this statistic is sensitive to sample size [29]. One can use instead the value obtained by dividing the χ² by its degrees of freedom (df) to partly alleviate this problem; an adequate level of fit is usually obtained when this ratio (χ²/df) is inferior to 5 [37].

The chi-square statistic is most often complemented by various ad hoc fit indices that are more practical and robust in indicating how well the model explains the data. In the EQS approach, the index of choice is Bentler’s comparative fit index (CFI), as it reflects fit relatively well at all sample sizes, avoiding in particular the tendency of the previous index of choice, Bentler and Bonett’s normed fit index, to underestimate fit in small samples [8]. The formula for the CFI is as follows:

\[
\text{CFI} = \left( \frac{\chi^2_0 - df_0}{\chi^2_k - df_k} \right) / \left( \frac{\chi^2_0 - df_0}{\chi^2_k - df_k} \right)
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where \( \chi^2_0 \) = the null model (i.e. in which all correlations among variables are zero), \( \chi^2_k \) = the hypothesized model, df = degrees of freedom for the model, and || denotes that the resulting value is trimmed to fall into the 0 - 1 range. Model fit is deemed to be acceptable when the CFI attains the 0.90 level [7].

Examining the structural equation modeling results presented in Figure 2, a significant value of 105.6 (df=51, p<0.001) would be an initial indication of unsatisfactory fit. However, satisfactory values of 2.1 for the χ²/df ratio and 0.89 for the comparative fit index
provide adequate support for the unidimensionality of the alignment and performance measurements as linked within the theoretical network hypothesized.

**Figure 2. Tested research model**

In terms of convergent validity, the loading squared represents the percentage of variance in a variable or indicator that is "explained" by its underlying construct or trait. Here, indicators are seen to converge adequately on their respective constructs, with loadings in the 0.59 to 0.97 range. The one exception is the "user involvement" variable whose loading is 0.44, while still highly significant, could cast some doubt on its validity as an indicator of the technological infrastructure.

The reliability of each construct is assessed with the $\rho$ coefficient, that is, the ratio of construct variance to the sum of construct and error variance, as follows: $\rho = (\Sigma \lambda_i)^2 / (\Sigma \lambda_i)^2 + \Sigma (1 - \lambda_i^2)$ where $\lambda_i$ is the standardized loading relating variable $i$ to the construct. A value greater than 0.50 indicates that at least 50% of the variance in measurement is captured by the construct variance [29] which is the case here with a range of 0.74 to 0.89 for the four constructs in the research model, thus confirming their reliability.

Given the presence of multiple constructs in the research model, discriminant validity must also be assessed, that is, assessing the extent to which the constructs as measured are unique from each other. It can be tested by determining whether the correlation between any two constructs is significantly different from unity, i.e. whether the confidence interval around the correlation includes 1.0 [2].

As shown in Table 1, the largest correlation is between technological infrastructure and alignment, with a value of 0.79 whose 99% confidence interval ranges from 0.67 to 0.87 and thus excludes 1.0 [32].

Discriminant validity is therefore considered to be at an acceptable level.

**Table 1. Correlations between constructs of the covariation model**

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Additional tests provided by EQS identify the parameters that could be dropped from the model without substantial loss in model fit, and those that could be added to improve fit [6]. First, in regard to the previous results on convergent validity, a Wald test indicated that the "user involvement" dimension of technological infrastructure could not be dropped from the measurement model without significant loss in goodness of fit. Second, whereas all measurement errors are assumed to be independent of one another, a multivariate Lagrange multiplier test indicated that allowing the measurement errors in certain of the infrastructure variables to correlate would provide a significant improvement in model fit. However, it was decided not to respecify the model in such a manner because this would obfuscate the meaning of the variables [2]. In all, the preceding assessment of the measurement model thus provides the necessary
foundation for testing the basic alignment hypothesis of the theoretical model.

4.2. Assessing the theoretical model

As shown in Figure 2, using a covariation perspective of fit [63] entails specifying alignment as a 2nd-order factor, with the 1st-order factors reflecting the level of fit between the organizational and technological infrastructures. Hypothetically linked to alignment, business performance is reflected in terms of growth and profitability. The proposition is then confirmed by the positive and highly significant path coefficient (γ = .61, p<.001) linking the alignment of the organizational and technological infrastructures to business performance. As such, alignment alone explains 37% of the variance in the performance construct, thus providing validation of the research sub-model, including the theoretical and methodological foundations on which it is based.

5. Discussion

The focus of this study was on the two lower quadrants of the Strategic Alignment Model [34]. The research presented examined the operational integration between the organizational and technological infrastructures and determined how their alignment impacted business performance.

The proposition was confirmed and the co-alignment of the two infrastructures did show clear impact on business performance. Hence, the research findings confirm and support the theoretical underpinning of the Strategic Alignment Model, namely that both infrastructures must be addressed during the planning process and ongoing operations.

The concept of infrastructure alignment implies that there is an operational link between the infrastructures through internal coherence between the organizational requirements on one hand and the delivery capability on the other. Therefore, the findings indicate that all components of both organizational and technological infrastructures were set in such a way that organizational members could accomplish their tasks properly and fill their responsibilities, while being adequately supported by the computer and communication technologies. Both infrastructures were designed to successfully carry out organizational activities.

Firms with beneficial organizational infrastructures display high utilization of the organizational infrastructure characteristics which create value to organizations in terms of strategic business issues. Having a common vision make possible the articulation of the firm’s strategic objectives. Organizational cooperation encourages participation in the firm’s strategic directions. Individual empowerment assigns accountabilities to the appropriate organizational orientation. Organizational adaptability is in response to organizational change and addresses such issues as novel opportunities and threats. Organizational learning is value-based and demonstrates long-term interests in the business. These organizational characteristics provide organizations with configurations and internal arrangements that are profit-oriented and support the business chosen position in the market.

The research results also indicate that effective technological infrastructures have a high impact on business performance. An explanation as to the enhancement of business performance may be that the technological infrastructure characteristics create value to organizations in terms of strategic IT issues. User involvement in information systems facilitates the strategic use of IT. Organizational connectivity comprises IS architectures designs that are linked to IT strategies. Distributed computing delivers relevant information for organizational decision-making. IT flexibility creates business-driven IT. Technology awareness helps to deploy IT effectively and profitably to meet strategic IT and business objectives. These technological characteristics provide organizations with technological configurations, IT work processes and shared services that address IT strategic goals and sustain business applications.

6. Research issues

The research method used in this paper has both strengths and weaknesses. The first strength lies in the test of the fit as co-alignment. Other kinds of fit have been tested in the past (e.g. moderation, mediation) but this research is one of the first, if not the first, to test the fit that way. It gives credence to Venkatraman’s work [61, 63, 64] in defining the various possible kinds of fit and it also contributes to building a cumulative tradition in IS.

The second strength lies in illustrating the applicability of the Henderson and Venkatramm conceptual model of alignment. A third strength lies in the use of Structural Equation Modeling. This technique simultaneously assesses the theoretical and measurement models. This approach requires a whole set of validation rules to be applied and therefore provides a greater confidence in the results and conclusions. In particular, the measurement model has been tested for undimensionality, reliability, convergent and discriminant validity. From a technical perspective, EQS is a powerful tool that eases the statistical and conceptual analysis of the 2nd-order construct (co-
alignment) derived from two 1st-order constructs (infrastructures). From a pedagogical perspective, the various steps of conducting the tests have been presented and explained in detail in order to ease the work of other researchers who might consider using this statistical method in the future.

A fourth strength is in using Tapscott and Caston's dimensions. Their practitioner perspective of the organizational and technological infrastructure alignment and its impact on business performance turns out to be advantageous. The inclusion of their practitioners' comprehension of the IS field contributes to making research more relevant to practice, as proposed by Benbasat and Zmud [5]. As recommended by Robey [52], it also adds some diversity to IS research, since this research addresses the Strategic Alignment Model in a very practical, relevant, yet rigorous manner.

A final strength of this research is the use of the survey approach. This facilitates the study of a greater number of variables than would be possible with other methods such as laboratory field experiments or case study [30].

However, the survey research method is not free of bias. Indeed, one weakness is the use of the questionnaire approach. The mailing approach does not give a full picture of the reality, since it is not possible to assess what are the non-respondents' perceptions. With a response rate of 11%, one must always wonder if the 89% non-participants were of the same opinion. It is, however, difficult to get CEOs to participate in surveys, and while a higher response rate was desirable it was hardly attainable. One lesson to be learned seems to be that case studies should be added to the survey in order to acquire a more representative portrait of the situation. This would make the reporting of research results more difficult, since it is not a standard procedure, but the authors wonder if this would not be the best way to increase the validity of research in the future.

Another weakness is the missed opportunity of improving the survey instrument by using elicitation to bring it up to date. This is the second lesson to be learned. Elicitation would have allowed pre-selected respondents to add new dimensions related to the topic before designing the final version of the questionnaire. Furthermore, this additional step could have contributed to explaining a greater proportion of the variance of business performance.

Overall, and relative to research issues, it is concluded that EQS is a great help to data analysis, practitioners can make insightful and relevant contributions to IS theory, and elicitation through interviews can helping conducting more valid and rigorous research.

### 7. Conclusion

This study contributes to the current research in two ways. It provides empirical findings regarding the functional linkage between organizational and technological infrastructures and enhances the validity of the Strategic Alignment Model [34]. While the strategic alignment of IT has previously been examined in a few empirical studies, prior research has focused on other aspects of strategic alignment. For instance, Chan et al. [18] showed the importance of having IT services strategically aligned on the organization’s strategic activities while Bergeron and Raymond [12] found that strategic IT management would benefit the enterprise inasmuch as organizational strategy is adequately operationalized.

This research contributes to the understanding of the alignment paradigm by looking at it from a different perspective. It has identified the match that should exist between critical dimensions of organizational and technological infrastructures. Using instruments different from earlier research, this study has identified a new set of factors that should be taken care of if organizations are to succeed financially. Based on Tapscott and Caston's [57] view of organization and technology, the resulting dimensions of strategic alignment are closer to the language used by IT practitioners. It is therefore relatively easy to explain to clients and represents an interesting set of attainable targets for most organizations.

This study also provides valid measurement of the infrastructure alignment construct and its effect on business performance, using structural equation modeling with the powerful EQS approach rarely used in IS research. As such, this is a valuable methodological contribution and provides avenues for further research in this field, including further examination of the organizational and technological infrastructures interactions. This could first be done by paralleling each sub-construct of both organizational and technological infrastructures, that is, by looking at each pair of individual alignment dimensions.

### 8. References


