EXPLORING THE DETERMINANTS OF ORGANIZATIONAL PERFORMANCE IN A DIGITAL WORLD – A CLUSTER ANALYSIS OF U.S. FIRMS

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ABSTRACT

In this paper, the authors investigate empirically what factors differentiate successful from not-so-successful companies when it comes to achieving Organizational Performance in a digital world. Based on a number of research streams, several internal and external factors are conceptualized and developed, including Web-Based Electronic Commerce Use, Trading Partner Trust, Trading Partner Power, E-Infrastructure, Strategic Flexibility, and Supply Chain Integration. In order to find the determinants of organizational performance, data was collected and analyzed from 180 companies in the US. Overall, the results demonstrate the importance of these factors on Organizational Performance.

Keywords: Electronic Commerce, Supply Chain Management, Cluster Analysis, Survey Research

INTRODUCTION

Globalization and the current hard economic conditions are forcing companies to reinvent their operations and strategies in order to remain competitive and find out what customers demand so they quickly respond and adapt. Such capabilities are built upon a number of factors. First, companies must take advantage of Electronic Commerce (EC) as means to reach not only customers and suppliers, but also to reengineer their operations to make them more efficient and transparent. Second, companies need to streamline their operations within their supply chain to bring down operation costs and be able to meet ever changing market conditions. Third, companies must continuously reinvent themselves to remain competitive by adapting their strategic decisions. A question remains as to how to achieve all these factors and achieve organizational performance excellence in this turbulent business environment? In order to answer this question, this paper empirically investigates factors that lead to Organizational Performance excellence in the digital world.

LITERATURE REVIEW

Web-Based Electronic Commerce Use (WEC)

In a theoretical sense, Web-Based Electronic Commerce use (WEC) can be conceptualized from previous definitions of Electronic Commence in general (Timmers, 1999; Baron, Shaw et al., 2000; Chu, Leung et al., 2007), which share several characteristics that are relevant to highlight. First, it is the notion that WEC involves different players in the Supply Chain, including internal participants to the focal firm, as well as external participants such as customers and suppliers. Second, the definitions refer to a wide range of activities/processes that can be completed through electronic means. To that extent, previous research has tried to capture these in different ways: at an activity level (e.g., Iacovou, Benbasat et al., 1995; Hart and Saunders, 1998; Chwelos, Benbasat et al., 2001; Collins, Ketter et al., 2009) in the particular case of EDI, and at a process level (e.g., Teo, Wei et al., 2003; Pramatari, 2007; Nurmilaakso, 2008; Narayanan, Marucheck et al., 2009) in the case of Web-Based EC, and at an exchange level (e.g., Le, 2002; Le, Rao et al., 2004; Chow, Choy et al., 2007; Truong, 2008). Third is the notion of the use of electronic means to conduct business transactions and communications.

Theoretical support for the WEC construct can be found in the IS use literature, including the Technology Acceptance Model (TAM) (Davis, 1989) and Innovation Diffusion Theory (Rogers, 1983), which serve as the foundation theories of most of the IT use literature at the intra and inter organizational levels (e.g. , Premkumar and King, 1994; Chwelos, Benbasat et al., 2001; Tarafdara and Sanjiv, 2006).

Our conceptualization WEC considers use at the transitional and strategic levels. This is consistent with previous research (e.g. EDI) that captured diffusion and the use of the technology in several ways; including internal and external diffusion of EDI (Ramamurthy, Premkumar et al., 1999); EDI use in facets (volume, diversity, breadth, and depth) (Massetti and Zmud, 1996; Hart and Saunders, 1998; Kim and Lee, 2008). In line with the previously research, we defined WEC as the level of electronic means used in processes that occur between players in a supply chain. Provided this definition, a range of activities can contribute to high levels of WEC including: information gathering/market research, product development, vendor and contract management, order management, planning, sales support, after-sales service and support, payment processing, and distribution/transportation/logistics.

Trading Partner Trust (TPP)

The concept of trust in an interorganizational context has received a lot of attention from researchers in recent years particularly because of: 1) the impersonal nature of the digital environment, 2) the extensive use of technology has steadily replaced the face-to-face interactions, 3) the uncertainty of using technology for transactions, and 4) the relatively newness of the medium (Pavlou, 2002). It has been argued that trust is of major concern in EC as information exchange between two parties is critical in buyer-supplier relationships and they will not be successful without trust (Barney and Hansen, 1994; Doney and Cannon, 1997; Zaheer, McEvily et al., 1998; Yen and Ng, 2002).

Several typologies have been proposed to study trust in the context of EC (McKnight and Chervany, 2001; Gefen, Karahanna et al., 2003). In a comprehensive study of the literature on

trust, McKnight and Chervany (2001) found four subconstructs to evaluate trust: competence, benevolence, integrity, and predictability.
Empirically, the previous conceptualization has been used to study the role of trust in the adoption of electronic intermediaries (Chircu, Davis et al., 2000), as an communication enabler in virtual teams (Jarvenpaa and Leidner, 1999), and as a enabler in online B2B marketplace formation (Pavlou, 2002).
We draw upon the previous discussion and define Trading Partner Trust (TPT) as the extent with which an organization believes their trading partners will perform business transactions with them according to their own expectations. We believe this is a critical prerequisite for WEC use because if trading partners do not trust one another, business relationships will not thrive.

Trading Partner Power (TPP)

In the inter-organizational literature, power has been another area that has received a considerable amount of interest in the particular case of WEC. From the economics and inter-organizational research streams, power has been viewed as one of the behaviors that play an important role in interorganizational relationships (Gaski, 1984; Hart and Saunders, 1997; Hart and Saunders, 1998). Enacted or coercive power can be defined as when one organization "encourages" or coerces its trading partners to follow a particular path (e.g. adopt Web-Based EC).
Hart and Saunders (1997; 1998) developed a theoretical framework positing that relative power between trading partners is one of the key determinants of EDI adoption and later confirmed empirically the impact of customer power on EDI use. Their overall findings indicated that increased customer power leads to reduced diversity of EDI use. Extrapolating the previous findings in the context of WEC, we believe that trading partner power will also play a relevant and thus deem appropriate to include this organizational factor in the current study.

E-Infrastructure (EIF)

A requirement of WEC use is having adequate organizational and technical infrastructure in place to support existing and new business processes. If the company technical and organizational infrastructure is not in place to support the requirements of EC, problems will arise. Therefore, it is important to determine the resources needed for a firm to be successful in a WEC environment (Zhuang and Lederer, 2001; Eid, Trueman et al., 2002).
The theoretical grounds can be traced primarily on the Resource Based Theory (RBT) (Wernerfelt, 1984; Barney, 1991), that sustain resources are made up of unique capabilities difficult to imitate and capable of predicting performance. According to the RBT, a firm's performance is founded on its unique capabilities and its competitors' difficulty in imitating them. These critical resources may span the firm's boundaries and be embedded within interorganizational processes and activities (Jap, 1999).
Following RBT, some definitions of IT infrastructure have been proposed in the literature which constitutes the foundations for the E-Infrastructure construct. In general, the conceptualizations include both technical and human components (Broadbent and Weill, 1999; Bharadwaj, 2000; Chung, Rainer Jr. et al., 2003). In the empirical literature, Peter Weill and his colleagues have conducted several fields studies to identify the characteristics of IT infrastructure (e.g. Broadbent and Weill, 1999; Weill and Vitale, 2002).

E-Infrastructure can be viewed as the combination of human and technical IT resources of a firm and includes the extent of applications/technologies used by a firm, the willingness of top management to allocate adequate resources to WEC, and Support, and training activities to those individuals involved in WEC.

Strategic Flexibility (SFE)

It is well known that firms operating in today's economy are experiencing increased pressures due to several factors including a rapidly changing business environment, shorter product life cycles, increasingly demanding customers, and fiercer competition. To overcome those challenges, companies need to have in place a robust strategy management component to respond rapidly and efficiently to a wide variety of changes in the competitive environment (Young-Ybarra and Wiersema, 1999). This needs an adaptive capability by the organization that allows for a promptly respond in a proactive or reactive manner to market threats and opportunities (Grewal and Tansuhaj, 2001). This concept has been explored under the umbrella of strategic flexibility and in the context of organizational capabilities and risk management (Grewal and Tansuhaj, 2001), strategic alliances (Young-Ybarra and Wiersema, 1999), and as a critical component of value chain flexibility (Zhang, Vonderembse et al., 2002; Zhang, Vonderembse et al., 2006) and supply chain agility (Swafford, 2003), among others. Strategic flexibility is commonly viewed as a multidimensional construct and has been defined as the ability to adapt to environmental changes and continuously develop strategies based on internal competences and external customer needs (Wheelwright and Hayes, 1985); to continuously respond to unanticipated changes, and to adjust to unexpected changes (Young-Ybarra and Wiersema, 1999). As suggested by Grewal (2001), we consider strategic flexibility as a polymorphous construct and view it as the organizational ability to manage change by promptly responding in a proactive or reactive manner to market threats and opportunities in the context of EC (Schniederjans and Cao, 2009; McLaren, Head et al., 2011).

Supply Chain Integration (SCI)

In order to survive in today's competitive markets; companies must deliver products to customers faster and without errors. In fact, this is no longer viewed as a competitive advantage, but a rather as a requirement to be a player (Mentzer, DeWitt et al., 2001). In search of such capability, companies are looking to integrate suppliers and customers in their supply chain (Keng and Messersmith, 2002), which ultimately cut costs, eliminate wasted time and redundant data, while at the same time providing added value to all the players involved in the supply chain. Integration in a Supply Chain context has been coined with the term Supply Chain Integration (SCI) and has received a lot of attention from previous research (Narasimhan and Jayaram, 1998 ; Frohlich and Westbrook, 2001; Narasimhan and Das, 2001; Narasimhan and Kim, 2001; Frohlich, 2002; Narasimhan and Kim, 2002). For instance, Frohlich and Westbrook (2001) demonstrated the consensus in literature about the strategic importance of integrating suppliers, manufacturers and customers. They conceptualized and measured integration using what they coined "arcs of integration", representing the direction (towards suppliers and/or customers) and degree of integration for different processes/activities. In a later study, Frohlich (2002) modified this construct in the context of EC, which was empirically validated and found to be positively related to performance.

Along the same lines of research, Narasimhan and Das (2001) studied the impact of purchasing integration and purchasing practices on manufacturing performance and found through empirical data that purchasing integration moderates the relationship between purchasing practices and manufacturing performance. They also discovered that different levels of IS utilization have an impact on Supply Chain Integration, which in turn leads to gains in competitive advantage. In another study, Narasimhan and Kim (2002) found that Supply Chain Integration (Internal and External) served as moderators for firm performance. Other studies have reached similar conclusions indicating that SCI is an important predictor of business performance (Rosenzweig, Roth et al., 2003).

Following previous research, we define Supply Chain Integration (SCI) as the extent to which activities within an organization with its direct customers and suppliers are integrated. It reflects the relative importance of external integration as an expression of business-cross-business activities with upstream suppliers and downstream distributors and customers. Additionally, the definition reflects the importance of internal integration within a business as an equally important component of the construct. The SCI construct is recognized by previous research as a strategic avenue for improving business performance in highly competitive environments (Narasimhan and Das, 2001; Takeishi, 2001).

Organizational Performance (OPE)

The assessment of the organizational impact of IT has been a long debated subject for many years because of mixed results (e.g., Mukhopadhyay and Kekre, 1995; Thatcher and Oliver, 2001). The well known "IT productivity paradox" (Brynjolfsson, 1993) is still being debated and no clear cut exists as to ascertain the real value of IT. There have been arguments to explain the contradictory results and recommendations are numerous. According to Barua, Ravindran et al. (1997) the measurement of business value from technology has to be performed at the level of core business processes. This perspective points out that the process level is the locus of true business value, where the impacts of technology accrue and are easily discernible. In this line of thought, several empirical studies measure IT performance. For instance, Murphy and Simon (2002) conceptualized and measured ERP benefits three levels: operational, managerial, and strategic. Esteves (2009) developed a road map of benefits using ERP in medium-sized enterprises. Irani and Love (2000) used case studies to capture IT benefits in three levels: Strategic; Tactical; and Operational. In the EC context, there are a few empirical works dealing with benefits. For example, Mukhopadhyay and Kekre (2002) quantify both operational and strategic impacts of electronic integration in a B2B procurement environment for a supplier. The findings indicate that both strategic and operational benefits are increased by the use of electronic integration. Narasimhan, Talluri et al. (2003) evaluate the benefits of e-procurement in terms of cost, time, flexibility, and consistency. Other empirical work captures the benefits of e-commerce in the context of B2B EC by using perceived direct benefits, perceived indirect benefits, and perceived strategic benefits (Ratnasingam and Klein, 2001; Ratnasingam and Pavlou, 2003). Zhuang et al. (2003) developed an instrument that assesses the benefits of electronic commerce for retailing. Focusing on pure-play internet firms, Wade and Nevo (2005) developed and validated an attitudinal scale that measured the performance of e-commerce operations. Similarly, focusing on activities across the value chain, Riggins and Mitra (2007) developed a framework for evaluating the functionality of net-enabled applications. Devaraj et

al. (2007) found that eBusiness technologies indirectly impact operational performance by supporting customer and supplier integration.
In general, research has identified three levels on which the value of technology can assessed: macroeconomic level, firm level, and individual level. Since the purpose of this study is to study the impact of WEC on a firm, we focus on different research streams that investigate technology value at a firm level. The organizational benefits are considered to be multi-dimensional in nature, and thus it is advantageous to integrate different dimensions of performance in empirical studies (Zhuang and Lederer, 2003).
From the previous discussion, we conceptualize Organizational Performance (OPE) as the benefits gained in the information quality, business efficiency, and competitive advantage by the use of Web-Based EC. We have taken into consideration previous recommendation that mention the need to have a multidimensional measure for performance (Zhu and Kraemer, 2002; Zhuang and Lederer, 2003).

RESEARCH METHODS AND RESULTS

The current study is a part of an ongoing international research project that includes additional organizational variables (Mora-Monge and Rao, 2006; Mora-Monge, Azadegan et al., 2010; Mora-Monge, Davis et al., 2011).

Study Context and Sample

A field survey was conducted involving companies operating in the United States. Constructs were measured in the survey using multiple 7-point Likert-style questions. Survey items were measured using questions developed and validated in previous studies. The items for **Web-Based Electronic Commerce use (WEC)** were based on the electronic markets theory (Malone, Yates et al., 1987), the technology acceptance model diffusion theory (Davis, 1989), and the diffusion of technology theory (Rogers, 1983). **Trading Partner Trust (TPT)** items were adopted from previous empirical interdisciplinary research on psychology, sociology, and social psychology in the context of Impersonal Trust and EC (Ratnasingam, 2000; McKnight and Chervany, 2001; Ratnasingam, 2001; Ba and Pavlou, 2002; McKnight, Choudhury et al., 2002; Pavlou, 2002; Ratnasingam and Pavlou, 2003); and the literature on interpersonal trust in strategic partnering (Hart and Saunders, 1998; McEvily, Perrone et al., 2003). Items for the **Trading Partner Power (TPP)** construct were drawn from empirical works in the technology adoption model theory of information systems, EDI Adoption (Hart and Saunders, 1998; Chwelos, Benbasat et al., 2001), and the marketing literature on buyer-supplier relationships (Bunn, 1993). The items for the **E-Infrastructure (EIF)** construct were primarily based upon empirical studies on the Resource Based Theory as it relates to technology management, implementation, and diffusion (Weill and Vitale, 2002; Ryssel, Ritter et al., 2004), IT as a capability (Stratman and Roth, 2002), and the infrastructural use of IT for Supply Chain Management (Li, 1997; Li, Rao et al., 2005; Li, Ragu-Nathan et al., 2006). The items for **Strategic Flexibility (STF)** were drawn from previous empirical works in the marketing and strategic alliances literature and the supply chain literature (Young-Ybarra and Wiersema, 1999; Grewal and Tansuhaj, 2001). Finally, items for **Supply Chain Integration (SCI)** were based on previous empirical studies on the effects of supply chain integration as a moderator of performance (Narasimhan and Kim, 2002), as a driver for electronic commerce (Barua, Konana

et al., 2000), and as a measure of Supply Chain Performance (Li, Rao et al., 2005; Li, Ragu-Nathan et al., 2006). Finally, the items for **Organizational Performance (OPE)** were drawn from a blend of items from the SCM and IT benefits literature (Lederer, Mirchandani et al., 2001; Wixom and Watson, 2001; DeLone and McLean, 2003).

Large Scale Instrument Assessment

After purifying the items, the examination of factor structure was carried out through exploratory factor analysis (EFA) to assess convergent validity at the dimension level and discriminant validity at the construct level. The remaining items after the purification were combined into their respective dimension and analyzed with the principle component analysis method and VARIMAX rotation extraction method (Kaiser, 1958), which provides a clear separation of items and is considered the most popular rotation method (Abdi, 2003). Factor loadings greater than 0.5 are considered very significant (Hair, Anderson et al., 1995) and are used as a cut-off score, and thus items not loading on a particular dimension or having significant cross loadings were dropped from further analysis. Items with good measurement properties should exhibit high factor loadings on the intended factor and small factor loadings in other factors (Segars and Grover, 1993). If a dimension factored into two or more dimensions, or if the opposite occurred, then theoretical justification was sought to justify the result. The overall results, shown in Table 1, indicate the adequacy of the measures used in the study.

Construct	**Dimension Level Results**		
	Dimension	**# of items**	**α**
Trading Partner Trust (TPT)	Competence (COMP)	3	0.90
	Benevolence (BENE)	6	0.91
	Integrity (INTE)	6	0.92
Trading Partner Power (TPP)		5	0.90
E-Infrastructure (EIF)	Top Management Support (TMS)	6	0.96
	Training (TRA)	7	0.93
	IT Use (ITU)	8	0.87
Strategic Flexibility (STF)		7	0.95
Supply Chain Integration (SCI)	Supplier Integration (SUP)	5	0.88
	Customer Integration (CUS)	5	0.89
	Internal Integration (INT)	4	0.86
Web-Based EC Use (WEC)	Transactional (TRS)	5	0.88
	Strategic (STR)	4	0.84
Organizational Performance (OPE)	Information Quality (INQ)	8	0.96
	Business Efficiency (BUE)	9	0.94
	Competitive Advantage (COA)	6	0.92

Table 1.Factor Analysis results

Cluster Analysis Results

In order to discriminate between successful from not so successful companies, we followed a two step clustering process used in previous research (Saeed, Malhotra et al., 2011). It is a mix of hierarchical and non-hierarchical techniques used as complementary clustering methods. The hierarchical approach offers the advantage that is does not require a priori knowledge of the number of clusters. However, once an observation is assigned to a cluster, it is not reassigned. This limitation is not present in nonhierarchical clustering. Thus, hierarchical clustering is used

first to identify the number of clusters and once this is known, then a non-hierarchal clustering is applied.
We first identified groups based on the dimensions of Organizational Performance (OPE) using the Ward's squared Euclidean distance hierarchical method. At the next stage, a K-means non-hierarchical clustering technique was used by specifying the number of groups obtained from the previous analysis. Convergence was achieved after four iterations and the results are presented in Table 2. To account for possible effects of demographic variables in the results, chi-square tabulations between the clusters were conducted with regards to firm size (number of employees), and industry type, which are considered to be related to organizational benefits. For the sample used in this study, no clear evidence was found relating OPE and any of the above mentioned demographic variables. The chi-square statistics in cross-tabulations between successful and not-so-successful groups and both firm size (χ^2=9.628, df= 5, p= 0.086) and industry type (χ^2=11.676, df= 7, p=0.112) do not show any significance.

Cluster	Label	Frequency	Center
1	Not-so-Successful	53	2.42
2	Successful	127	4.05

Table 2. Cluster Analysis results

MANOVA results

To understand the characteristics that differentiate successful firms (SUC) from not-so-successful ones (NSS), a MANOVA analysis was conducted. Multivariate Analysis of Variance (MANOVA) is a statistical technique that can be used to simultaneously investigate the relationship between several categorical independent variables and two or more metric dependent variables (Hair, Anderson et al., 1995). Its primary objective is to assess the significance of group differences (Mertler and Vannatta, 2002)and its main advantage is that allows examining several dependent measures simultaneously, along with the interactions. The most common multivariate statistic that evaluates an effect on a single dependent variable is known as Wilks' lambda.
Since groups in MANOVA are created by two or more factors, it is important to determine if factors are interacting (working together) to affect the dependent variables. If lines overlap and crisscross, factor interaction is present. The interaction effects (joint effect of two treatments) should be analyzed before examining each treatment individually. Although a line plot may reveal some factor interaction, the MANOVA results may show that the interaction is not statistically significant. Therefore, it is important to determine the interaction significance. If factors significantly interact, e.g. they are working together to affect the dependent variable, the researcher cannot determine the effect that each separate factor has on the dependent variable by looking at the main effects for each factor. Although individual factor main effects may be significant even while factor interaction is significant, caution should be use when drawing inferences about factor effects (Mertler and Vannatta, 2002). Interaction can occur in two different ways, ordinal (differences in magnitude) or disordinal (differences in magnitude and direction). If the significant interaction is ordinal, there might be plausible interpretations to ensure the acceptance of the results. However, if the interaction is disordinal, the main effects of the treatments cannot be interpreted and the study must be redesigned (Hair, Anderson et al., 1995).

Once the significance for the multivariate model has been established, individual univariate analyzes, normally regular one way ANOVAs, can be conducted to assess the impact of each DVs by the IV(s). This will result in multiple tests, which in turn will affect directly error Type I. To overcome this problem, it is necessary to adjust the significance level for the test of each DV so that the alpha level for the group of DVs does not exceed some pre-established critical value (Pedhazur and Schmelkin, 1991; Fowler, 2002). Therefore it is a common practice to set the overall alpha level to a low value (e.g. 0.01) to counteract this issue.
In summary, when evaluating the results of MANOVA, one must follow the following steps (Mertler and Vannatta, 2002):

1. Examine the overall multivariate test of significance. If results are significant, proceed to step 2; if not stop.
2. Examine the univariate tests of individual DVs. If there are significant differences, proceed to step 3; if not stop.
3. Examine post – hoc tests for individual DVs.

We first tested the assumption of equality of covariance matrices was assessed by examining the Box's Test (M =50.151, F = 1.695, p = 0.012). This indicates the Wilk's Lambda statistic can be used to interpret the MANOVA results. Second, the overall model with seven dependent variables (TPT, TPP, EIF, STF, SCI, and WEC) is statistically significant at $p<0.01$ with Wilks' Lambda = 0.551 (χ^2=103.91, df= 6, p=0.00). Third, individual ANOVA results on the DVs (see Table 3) indicate that significant differences exist between SUC and NSS groups with regards to all dimensions except TPP, strongly supporting the importance of these dimensions in the overall performance of a firm. Additionally, results indicate shows there is room for improvement for both SUC and NSS firms as reflected by the mean values in all of the DVs, where most of the values have a mean less than 4 on a 5 point scale.

Dimensions	**Successful** **mean (std. dev.) (n=127)**	**Not-so-Successful** **mean (std. dev.) (n=53)**	**F-statistic**
Trading Partner Trust (TPT)			
• Integrity (INTE)	4.15 (0.62)	3.83 (0.75)	8.86*
• Benevolence (BENE)	3.83 (0.65)	3.42 (0.88)	12.07*
• Competence (COMP)	4.23 (0.59)	4.00 (0.72)	5.13**
Trading Partner Power (TPP)	2.69 (1.07)	2.47 (1.08)	1.56
E-Infrastructure (EIF)			
• Top Management Support (TMS)	3.91 (0.88)	2.72 (1.02)	62.12*
• Training (TRA)	3.39 (0.86)	2.11 (0.91)	81.31*
• IT Use (ITU)	3.73 (0.84)	2.75 (1.03)	44.70*
Strategic Flexibility (STF)	3.85 (0.73)	2.84 (1.00)	56.86*
Supply Chain Integration (SCI)			
• Supplier Integration (SUP)	3.76 (0.70)	2.63 (0.81)	87.45*
• Customer Integration (CUS)	3.88 (0.72)	3.28 (0.87)	22.52*
• Internal Integration (INT)	3.91 (0.74)	2.92 (0.94)	58.02*
Web-Based EC use (WEC)			
• Transactional Use (TRS)	3.93 (0.81)	2.94 (1.02)	48.71*
• Strategic Use (STR)	3.47 (0.80)	2.40 (0.76)	69.22*

* $p < 0.01$ **: $p< 0.05$

Table 3. MANOVA results

Discussion and Conclusions

Undoubtedly, competitive forces are and will continue to change the way firms operate. For this reason, firms of all sizes must realize the importance of the digital world in their strategies and operations in order to maximize profits. Companies must understand how to leverage emerging technologies to move toward the goal of achieving more benefits within the confinements of the firm, as well as in the context of their supply chain. The present study is a step forward in this direction by systematically investigating the factors that influence Organizational Performance in a digital environment utilizing sound empirical research methods. The results of this study provide a number of important of insights for both practitioners and researchers alike. First, we have found a number of dimensions that are critical to Organizational Performance in the digital world including Trading Partner Trust (TPT), E-Infrastructure (EIF), Strategic Flexibility (STF), Supply Chain Integration (SCI), and Web-Based EC use (WEC). Second, reliable measures were developed and/or validated in the context of the current study. Third, it provides managers a set of factors to focus on to better serve their shareholders and achieve the desired business outcomes. Third, our results suggest that successful companies will be those that build on a unique blend of internal (e.g. EIF, TPT, STF) and external (e.g. SCI) capabilities.
There are also some opportunities to be addressed in future research. First, we did not evaluate whether other additional organizational variables modify the relationships found in this research. Second, future research might consider longitudinal research and alternative statistical methods that could complement the empirical findings of this study. Finally, since this study was limited to the United States, future research might consider doing a cross-country analysis to determine if differences exist.

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