

# INFORMATION SYSTEMS OFFSHORING: A STRATEGIC ALIGNMENT PERSPECTIVE

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## ABSTRACT

*The alignment between a firm's business and information systems (IS) strategy is widely believed to improve business performance. One strategic IS decision being considered by many firms is the international sourcing or offshoring of IS. Given the recent growth and acceptance of IS offshoring there is a need to examine the relationship between a firm's strategic orientation and their use of IS offshoring. Thus, this paper examines a firm's IS offshoring decision and business strategy using the popular Miles and Snow business strategy typology of defender, analyzer and prospector. Interesting results are expected in showing how a firm's business strategy classification influences their offshoring decision. Different IS offshoring activities (i.e., maintenance routines vs. new application development) will be examined to distinguish how the use of IS offshoring varies across business strategy orientations. Based on our analysis, propositions are presented to guide future IS offshoring business strategy alignment research. This research is one of the first to examine the relationship between business strategy and the IS offshoring decision and could provide early insights for guiding a firm's IS offshoring decision.*

## INTRODUCTION

The impact of the alignment of a firm's information systems (IS) strategy and business strategy on the firm's improved business performance has received increased attention over the last decade (i.e., Chan and Horner Reich, 2007a; 2007b; Palmer and Markus, 2000; Sabherwal and Chan, 2001). During this decade, IS offshoring has matured into a strategic sourcing option for many firms (Dibbern and Heinzl, 2009). Technological advances combined with increased globalization and competitive pressures have forced many firms to consider IS offshoring as a sourcing alternative to reduce organizational cost and remain competitive in the global market place. Besides the allure of lower costs, one of the key reasons for (client) firms engaging in offshoring IS project work is to reduce the risks associated with internal IS operations. By transferring these IS process to the offshore providers firms place the burden of IS operation in the hands of an organization better able to address the risks (i.e., because developing and implementing IT projects is their core business) (Taylor, 2006). Recent estimates put the global IS offshore sourcing market at over \$55 billion for 2008 and some estimates suggest an annual growth rate of 20% over the next five years (Oshri, Kotlarsky and Willcocks, 2009).

Achieving alignment between IS strategy and business strategy has been a long running organizational challenge. IS alignment has consistently been identified as essential for achieving

organizational success (Chan, Huff, Barclay, and Copeland, 1997, Sabherwal and Chan, 2001). However, the processes required to achieve IS alignment are often misunderstood and unclear. This has been the case even though there is an explicit desire for IS alignment being pursued by management (Hirschheim and Sabherwal, 2001).

Despite the intuitive argument that the IS offshoring decision should be influenced by a firm's business strategy research on this relationship has largely been left under investigated. The strategic decision to utilize IS offshoring has evolved from a cost-saving initiative to something of a survival strategy for more and more organizations. An alignment between the offshore decision and business strategy seems inevitable given the current competitive environment. However, the IS offshoring decision may not reflect a firm's business strategy and instead may be a result of current economic pressures and the simple need to survive. Thus, this paper will examine the relationship among a firm's use of IS offshoring and business strategy using the popular Miles and Snow business strategy classifications of defender, analyzer and prospector. The analysis seeks to examine if the traditional business strategy typologies support the firm's IS offshoring decision. Accordingly, this paper is centered on the following research questions:

1. Are IS offshoring decisions aligned with a firm's business strategies?
2. Is the IS offshoring decision and business strategy alignment dependent on the specific activity being offshored (i.e., maintenance routines vs. new application development)?
3. Which business strategy is most likely to choose IS offshoring?

### **IS OFFSHORING ALIGNMENT**

The concept of IS alignment with business strategy has been widely studied in IS literature. However, precisely defining and reaching a universal definition of IS alignment has been a challenge, since alignment is not a uni-dimensional phenomenon. IS alignment has been defined as a process of achieving a fit between an organization's business strategy, information technology (IT) strategy, business infrastructure and IS infrastructure (Henderson and Venkatraman, 1993). This perspective views strategic alignment not as an event but as a process of continuous adaptation and change (Henderson and Venkatraman, 1993). Additionally IS alignment has been defined as the alignment between the strategic orientations of the business unit and IS (Chan et. al., 1997). Following these perspectives, we define IS alignment as the fit between an organization's business strategy and IS strategy. The fit in this context represents the degree to which the IS mission, objectives and plans support and are supported by the objectives and plans for the overall business. For the purposes of this research we are investigating the IS strategic decision of utilizing an offshore IS provider as a source of IS activities to the client firm. The IS offshore decision is often viewed as a strategic decision that falls under the business strategy umbrella (Dibbern and Heinzl, 2009).

### **ORGANIZATION STRATEGIC TYPES**

In examining the business strategy literature a wide variety of strategy definitions exist. While many approaches can be applied, we adopted Porter's (1980) perspective on strategy. Under this perspective, strategy is constituted by offensive and defensive actions undertaken to counter competitive forces and thus provide the firm with an increased return on its investment. Identifying business strategies can take either a textual, multivariate, or typological approach (Hambrick, 1980). The typological approach is often recognized as creating a better understanding of an organization's strategic reality since all types of business strategies are

considered to have particular characteristics. In regards to the typological approach, Miles and Snow (1978) has been the most recognized and widespread classification scheme for the last few decades (DeSarbo et al., 2005).

In their classification scheme, Miles and Snow identified three viable strategies for businesses to follow: defender, prospector and analyzer. They have found that almost all competitive approaches revolve around these three fundamental business strategies. It should be noted that the original typology initially included a fourth business strategy named reactors. However, reactors are considered organizations that either lack a viable coherent strategy or are in transition to one of the three ideal strategies. For the purposes of this paper, reactors will not be included, which follows most empirical studies that have used the Miles and Snow typology (Delery and Doty, 1996; Sabherwal and Chan, 2001).

**IS OFFSHORING STRATEGY PROFILES**

The objective of this paper is to investigate the relationship among a firm’s business strategy classification and the firm’s IS offshoring decision. The widely used Miles and Snow (1978) business strategy classification will be applied to examine the alignment among a firm’s business strategy and the IS offshoring decision. The profiles of typology (Table 1 and Table 2) demonstrate key elements that differentiate each business strategy in use by a firm. The identified traits are expected to play a key role in our investigation of a firm’s business strategy alignment and use of IS offshoring. A description of each strategic profile and the profile’s proposed relationship with IS offshoring are described next.

	<b>Market</b>	<b>Main Concern</b>	<b>Structure</b>	<b>Technology Used</b>	<b>Risk Profile</b>
<b>Prospectors</b>	High fluctuations, growth in spurts	Flexibility, Change	Decentralized, shorter tenure	Varied	High risk tolerance
<b>Analyzers</b>	▲ ▼	▲ ▼	▲ ▼	▲ ▼	▲ ▼
<b>Defenders</b>	Stable	Control	Centralized, longer tenure	Focused	Low risk tolerance

**Table 1: Strategic Profiles (Aubert, Croteau, Beaurivage and Rivard, 2008)**

<b>Business Strategy Attributes</b>	<b>Defenders</b>	<b>Prospectors</b>	<b>Analyzers</b>
<b>Defensiveness</b>	High	Low	Medium
<b>Risk Aversion</b>	High	Low	High
<b>Aggressiveness</b>	Medium	High	Medium
<b>Proactiveness</b>	Low	High	Medium
<b>Analysis</b>	Medium	Medium	High
<b>Futurity</b>	High	Medium	Medium

**Table 2: Business Strategy Profiles (Sabherwal and Chan, 2001)**

**Defender**

Defenders are classified as organizations that offer limited, stable product lines and compete primarily on the basis of value and/or cost. Defenders stress operational efficiency and economies of scale. Based on these characteristics, one would expect defender firms to engage in IS offshoring due to the inherent cost efficiencies. However, they seldom make major adjustments in their technology, structure or methods of operation and rarely search outside of their domain for new opportunities. They typically support the managerial characteristics of centralized decision-making and control, vertical communications and integrations with high degrees of technical specialization (Miles and Snow, 1986). These attributes would suggest against the decision to use an external vendor for IS offshoring. Since defenders typically stress operational efficiencies, economies of scale and cost control and are reluctant to make major adjustments to their technology organization, we expect:

***Proposition 1:** Firms classified as defenders will have a lower usage of IS offshoring than prospectors.*

***Proposition 2:** Firms classified as defenders will have a lower usage of IS offshoring than analyzers.*

**Prospector**

Prospectors are “first to market” with a new product or service and differentiate themselves from competitors by using their ability to develop innovative technologies and products. They are the firms who are often the creators of change and uncertainty to which their competitors must respond. For firms operating in these more turbulent environments, it is critical that they understand how IT can act as an enabler, providing competitive advantage (Sambamurthy et al. 2003). Prospectors emphasize innovativeness and invest heavily in product R&D. They typically seek flexibility in their technology in order to react quickly to new market opportunities. Thus, the use of offshoring would appear to support their strategy of being open to and accepting change, and in their preference to be first to utilize a new service such as IS offshoring. Prospectors use more flexible managerial structures such as autonomous work-groups or product divisions in which planning and control are highly decentralized. These structures support market responsiveness, but at the expense of overall specialization and efficiency (Miles and Snow, 1986). The decentralized nature and preference to use market structures should lead prospectors to use IS offshoring as a strategic choice. The prospector’s traits would suggest that prospectors would be more willing to accept some of the uncertainties involved to capitalize on the potential IS offshoring benefits. Because prospectors continuously search for market opportunities, invest heavily in R&D and seek flexibility in their technology we expect:

***Proposition 3:** Firms classified as prospectors will have a higher usage of IS offshoring than defenders.*

***Proposition 4:** Firms classified as prospectors will have a higher usage of IS offshoring than analyzers.*

**Analyzer**

Analyzers are firms that share both prospector and defender traits in moderation (Sabherwal and Chan, 2001). They often attempt to be first to introduce new products, yet will remain in second

place with products they have a good core market position in. Analyzers tend to operate with a stable domain of core products, but at the same time seek to enter new markets and venture into new product opportunities to maximize growth with a minimum of risk. However, they also copy the defender's characteristics of supporting routines and efficiency for their core operations. With their in between traits, one would expect that their use of IS offshoring would be less than that of prospectors but to a greater degree than defenders. Analyzers tend to follow prospectors who introduce new competitive products. Overall, the analyzer will tend to adopt a matrix organizational structure to handle the conflicting demands of both efficiency and innovation. Because analyzers tend to exhibit characteristics of both defenders and prospectors, but are willing to take on greater risk and venture into new opportunities we expect:

***Proposition 5:** Firms classified as analyzers will have a higher usage of IS offshoring than defenders.*

***Proposition 6:** Firms classified as analyzers will have a lower usage of IS offshoring than prospectors.*

## **METHODOLOGY**

The next step for this study is to empirically test the alignment between business strategy and the IS offshoring decision. In selecting an appropriate approach for capturing the firm's business strategy, the Miles and Snow strategy typology has been operationalized using a wide variety of techniques. Hambrick (1983) classified firms by their strategy type by looking at the number of new products brought to market by the firm. Another technique applied is having respondents classify their business strategy according to four descriptions representing the Miles and Snow Typology (Snow and Hrebiniak, 1980). Respondents would select the description that best represented their organization. A Likert scale questionnaire has also been used to classify business strategies (Segev, 1987). These techniques and associated measures have been used by many studies investigating business strategy.

However, all of the above mentioned business strategy approaches are all based on perceptions using a simple (some will argue too simple) indicator. Managers who complete the survey, description classification could be describing the strategy they would like their firm to follow, rather than report the current strategy of the organization. In order to move away from perceptions and measure strategy in a more objective nature, this research plans to use secondary data to classify and evaluate business strategy. Data for the study will come from survey and interviews as well as secondary sources used to verify correct assignment of firms into the strategic categories. The offshoring decision data will be taken from an existing database that collected a firm's usage of IS offshoring. In addition, interview data collected by the principal investigator will also be used to assess the offshoring decision. Secondary data has been used by Aubert, Croteau, Beaurivage, and Rivard (2008), to classify business strategy. In their study, constructs for business strategy were identified and collected based on the business strategy typology questionnaire developed by Segev (1987). Secondary data available through financial and annual reports will be used to classify firms according to their Miles and Snow business strategy classifications. Examples of secondary data to be collected include: Beta, Debt Structure, Research and Development, Sales Expenses, Liquidity Ratios, Stability of the Benefits, Payments of Dividends and Strategy in the Annual Report. Each indicator corresponds with a level associated with the Miles and Snow typology of Defender, Analyzer and or Prospector (Table 3).

<b>Secondary Data Indicator</b>	<b>Defender</b>	<b>Analyzer</b>	<b>Prospector</b>
<b>Beta</b>	Low	Industry Average	High
<b>Debt Structure</b>	Little or no debt	Industry Average	High levels of debt
<b>Research and Development</b>	Lower than industry average	Industry Average	Higher than industry average
<b>Sales Expenses</b>	Low	Median	High
<b>Liquidity Ratios</b>	High	Industry Average	Low
<b>Stability of the Benefits</b>	Very stable	Fluctuates with industry trends	Higher variability than industry
<b>Payments of Dividends</b>	High	Industry average	Little, irregular or no dividends
<b>Strategy in the Annual Report</b>	Cost, effectiveness, quality, delivery, vertical integration	Seek a median strategy	Expansion, innovation, customer

**Table 3: Secondary Data Indicators (Aubert, Croteau, Beaurivage and Rivard, 2008)**

**CONCLUSION**

This study brings attention to a firm’s strategic orientation and the use of IS offshoring. The IS offshoring decision is clearly a strategic decision that would appear to require an alignment with a firm’s business strategy. However, given the growing acceptance of IS offshoring, little research exists investigating if the IS offshoring decision aligns with a firm’s business strategy. The next step for this study is to empirically test the proposed framework. Empirical validation of the study and anticipated findings may challenge managers to think beyond the customary strategic methods that have traditionally dominated organizational decision making. The results should extend current understanding and consider how the offshore decision aligns with business strategy. Interesting findings may emerge that suggest the offshoring decision is not dependent on the firm’s business strategy. In testing the proposed framework, various IS offshoring activities and decisions will be examined to investigate if different IS offshoring decisions align with the Miles and Snow typology. The potential contribution of this study is to demonstrate that the IS offshoring decision may not always be aligned with a firm’s business strategy and could be dependent on the specific activity being offshored (i.e., maintenance routines vs. new application development). Interesting findings may result if the offshore decision does not align with a firm’s business classification, but is still deemed to be successful or a positive decision by the client firm. These potential findings would challenge earlier findings of IS strategy alignment and their consistency with the Miles and Snow typologies. In closing, we hope this study will increase the understanding of the linkage between business strategies and IS alignment decisions and build upon previous findings.

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