PREDICTING EMPLOYEE AWARENESS OF ORGANIZATIONAL OBJECTIVES FROM STRATEGIC ALIGNMENT MATURITY

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ABSTRACT

IT-business alignment is a persistent information management concern. This paper presents findings from a study which investigated the influence of management practices and strategic choices on the mutual knowledge of IT and business objectives by IT and business executives. The Strategic Alignment Maturity (SAM) assessment instrument was used to assess maturity of management practices and strategic choices to facilitate alignment. Discriminant function equations were developed to estimate the impact of each of the SAM factors on respondents knowing their IT and business objectives. Communications maturity and Governance maturity were the most prominent predictors of employees knowing their objectives.

Keywords: Strategy, Alignment, Discriminant function analysis

INTRODUCTION

IT-business strategic alignment is an ongoing concern of organizational leaders. Top IT executives and chief financial officers have ranked IT-business alignment as one of their primary issues (Luftman & McLean, 2004; Computer Sciences Corporation, 2007).
This paper presents findings from a study which investigated the influence of management practices and strategic choices on the mutual knowledge of IT and business objectives by IT and business executives.

The concept of IT-business alignment stems from strategic management research which suggests that a fundamental concept of IT strategic planning is that IT objectives should be derived from business objectives or developed in conjunction with them (McLean & Soden, 1977; Applegate et al., 1996; Teo & King, 1997). The maturity of the information systems function effects strategic information systems planning, with IT-business alignment shown to improve the effectiveness of a firm's planning process (Lee & Pai, 2003).

Our study contributes to the understanding of the effects of IT business alignment processes on employees' awareness of their firm's IT and business objectives. The Strategic Alignment Maturity (SAM) assessment instrument was used to assess maturity of management practices and strategic choices to facilitate alignment. This work should be of interest and utility to managers

as they direct their management practices and strategic choices in the operational, tactical, and strategic aspects of decision-making relative to their organizational resources.

LITERATURE REVIEW

Previous research has examined the IT planning process and its links to strategic business planning (for example, Horovitz, 1984; Lederer & Mendelow, 1989; Teo & King, 1997; Reich & Benbasat, 2000). Horovitz (1984) provides a framework that defines steps and processes to strategic management. He identifies intellectual and social approaches to strategy formulation and implementation, whereby the intellectual aspect refers to the tools and organizational arrangements used and the social aspect refers to the people involved in making the strategy happen.

Reich and Benbasat (1996) expand on Horovitz's concept and apply it to IT-business alignment. They suggest that the intellectual dimension pertains to "methodologies, techniques, and data used in the formulation of strategy" and that the social dimension pertains to "the choice of actors, their degree of involvement, and the methods of communication and decision making" relative to the process of strategic business planning. Reich and Benbasat (1996) define a social dimension of alignment as the degree to which an organization's executives mutually understand their IT and business objectives and are committed to carrying them out. Reich and Benbasat (1996 and 2000) examined the "level of mutual understanding" component of the social dimension by evaluating organizations' business and IT plans. They suggest that the understanding of current IT and business objectives by IT and business executives is a measure that can be used to assess the social dimension of alignment.

This study applies the SAM assessment methodology to assess management practices and strategic choices in an organization, which is considered to have some aspects of Horovitz's intellectual process of tools and organizational arrangements used in strategy formulation and implementation. The SAM framework is comprised of multiple management practices and strategic choices an organization can implement, each of which has the potential to facilitate IT-business alignment (Luftman, 2000). There are five different levels, or maturity, of implementation for these practices and choices (Sledgianowski, et al., 2006).
The management practices and strategic choices comprising the SAM framework are categorized into six components, each having five levels of maturity, a description of each of the components follows along with the proposed hypotheses associated with the components and their relationship to knowing IT and business objectives.

According to the framework, Communication maturity is the degree to which an organization is effective at sharing information for mutual understanding and the methods used to promote this.

Hypothesis 1a: *Higher levels of Communication maturity are associated with higher levels of Knows IT Objectives.*

Hypothesis 1b: *Higher levels of Communication Maturity are associated with higher levels of Knows Business Objectives.*

Competency/value measurement maturity refers to the management decisions and strategic choices an organization makes when determining the value and contribution of IT to the firm.

Hypothesis 2a: *Higher levels of Competency/value Maturity are associated with higher levels of Knows IT Objectives.*

Hypothesis 2b: *Higher levels of Competency/value Maturity are associated with higher levels of Knows Business Objectives.*

Governance maturity refers to the choices organizations make when allocating decision rights for IT activities such as prioritizing projects and controlling budgets and IT investments (Henderson et al., 1996).

Hypothesis 3a: *Higher levels of Governance Maturity are associated with higher levels of Knows IT Objectives.*

Hypothesis 3b: *Higher levels of Governance Maturity are associated with higher levels of Knows Business Objectives*.

Partnership maturity pertains to how IT and the business perceive the contribution of each other.

Hypothesis 4a: *Higher levels of Partnership Maturity are associated with higher levels of Knows IT Objectives.*

Hypothesis 4b: *Higher levels of Partnership Maturity are associated with higher levels of Knows Business Objectives.*

Scope and architecture maturity refers to the management decisions and strategic choices an organization makes when allocating resources toward its information technology infrastructure, including its reach and range.

Hypothesis 5a: *Higher levels of Scope and Architecture Maturity are associated with higher levels of Knows IT Objectives.*

Hypothesis 5b: *Higher levels of Scope and Architecture Maturity are associated with higher levels of Knows Business Objectives.*

Skills maturity refers to the organization's cultural climate toward change and innovation.

Hypothesis 6a: *Higher levels of Skills Maturity are associated with higher levels of Knows IT Objectives.*

Hypothesis 6b: *Higher levels of Skills Maturity are associated with higher levels of Knows Business Objectives.*

This study proposes that each of the six components of SAM are predictors of mutual awareness of IT and business objectives by IT and business executives (see Figure 1).

METHODOLOGY

Data to test the hypotheses and model were drawn from a cross-sectional field study of 116 IT and business executives from 10 business units across seven organizations (Sledgianowski et al 2006). The respondents completed the SAM instrument as part of a strategic alignment assessment. The assessment program was offered to all organizations which were current members of The Conference Board or SIM. According to the web sites of these two

organizations, SIM membership consists of over 3,000 IT leaders and The Conference Board membership consists of executives from over 2,000 companies. Membership in the two organizations may overlap, as some executives may belong to both.

Measurement of Constructs

Strategic alignment maturity was assessed using the SAM assessment instrument.
An earlier paper (Sledgianowski et al., 2006) empirically tested and validated the SAM assessment instrument using the same data set used in the current study. The instrument identified six factors (Communications, Competency/value, Governance, Partnership, Scope and Architecture, and Skills, with five distinct Maturity levels, comprised of 22 items to measure strategic alignment maturity.

There are two components to the Knowing Objectives construct. One measures the degree to which respondents know their business objectives, called Knows Business Objectives and the other one measures the degree to which respondent know their IT objectives, called Knows IT Objectives.

DATA ANALYSIS

The three definitive IT objectives and the three definitive business objectives were compared to each respondent's written objectives and the respondent was assigned a value of "knows" or "does not know" corresponding with whether they knew one or more of the definitive objectives (knows) or whether they did not know any of the definitive objectives (does not know). For example, looking at the IT objectives of one organization, their top three business objectives, as identified by the most-senior respondent, a Vice-President, for their firm were: (1) Profitable Growth, (2) Innovation, and (3) Highly qualified people. Each written business objective response of the respondents from that company were compared to these three definitive objectives to determine if none, one, two, or all three of their stated business objectives matched these definitive objectives as defined by the most-senior executive. All differences in scores between the judges were reconciled, resulting in complete consensus.

RESULTS

Discriminant function analyses using SPSS statistical software (1997) were performed to determine whether the six factors identified by the Strategic Alignment Maturity model can be used to create discriminant equations to predict whether IT and business employees know their firm's IT and business objectives.

The six factors (COMM, COMP, GOV, PART, SCOPE, SKILLS) were used as predictor variables. The scores for each of the six factors were computed as the mean of the items making up each factor. The six factors were entered into the analysis together, assuming equal priority of the factors.

Knows IT Objectives

The first discriminant function analysis used "Knows IT Objectives" with most-senior respondents' responses as "definitive" as the grouping variable. Two groups were used for the analysis; one group containing all respondents who did not know any IT objectives (n = 46) and the other group containing all respondents who knew one or more IT objectives (n = 59). This model was able to significantly predict group membership into two groups for the six predictor variables (Wilks' lambda = .840, and χ^2 (6) = 17.428, p < .01).

Table 2 shows the pooled within-group correlations of each of the six predictor variables with the discriminant function. This structure matrix shows us COMM is most highly correlated with the discriminant function at 0.773 and PART at 0.244 is least correlated. The loadings on a structure matrix can be likened to factor loadings, following similar criteria for interpretation as factor analysis. Interpreting variables with a loading of 0.40 and above, the PART variable, with a loading of .244, was dropped from the discriminant function.

Using the five predictor variables, a discrlminant function equation is comprised with the standardized canonical discriminant function coefficients (see Table 3):

Score = 0.48COMM + 0.119COMP + 0.264GOV + 0.287SCOPE + 0.112SKILLS (1)

As can been seen from the equation, Communications has the greatest contribution followed by Scope and Architecture, Governance, Competency and Value Measurement, and then Skills with the weakest contribution. This equation can be used to compute a canonical variable score for each case indicating the classification grouping, either knows IT objectives or does not know IT objectives, based on the predictor variable values.

Knows Business Objectives

The next discriminant function analysis used "Knows Business Objectives" as the grouping variable. Two groups were used for the analysis; one group containing all respondents who knew one or more business objectives (n = 84) and the other group containing all respondents who did not know any business objectives (n = 18). This model was able to significantly predict group membership into two groups for the six predictor variables (Wilks' lambda = .8 18, and χ^2 (6) = 19.459, p < .01). By chance alone, this model should correctly predict 50% of the 102 cases (see Table 4). The percent correct using this classification model is 25% greater than by chance alone and 21% greater than chance with cross-validation. This classification accuracy significantly exceeds the classification accuracy expected by chance.

The structure matrix in Table 5 reveals that GOV is most highly correlated with the discriminant function at 0.681 and PART is least correlated at 0.029.

Interpreting variables with a loading of 0.40 and above, the three variables with a loading less than 0.40 (PART, SKILLS, and SCOPE) were dropped from the discriminant function, leaving COMM, COMP, and GOV.

Using the three predictor variables, a discriminant function equation is comprised with the canonical discriminant function coefficients:

$$\text{Score} = 0.162\text{COMM} + 0.080\text{COMP} + .847\text{GOV} \quad (2)$$

As can be seen in the equation, GOV has the greatest contribution, followed by
COMM and then COMP. This equation can be used to compute a canonical variable score for each case, indicating the classification grouping, either knows business objectives or does not know business objectives, based on the predictor variable values.

DISCUSSION AND IMPLICATIONS

This study set out to determine whether greater maturity levels in one or more of the Strategic Alignment Maturity factors could predict employees' knowledge of their organizations IT and business objectives. Support was found for most of the proposed hypotheses (see Table 7).

A discriminant function equation was developed to estimate the impact of each SAM factor relative to managers knowing their organization's IT objectives. While the derived function is significant, its predictive capability is moderate, with a 22% probability of being better than chance alone. The Communications dimension of the Maturity construct has the greatest contribution to the ability to discern between knowing and not knowing IT objectives. This result is as expected given the critical role of communication
to sharing information between IT and business executives.

A discriminant function equation was developed to estimate the impact of each SAM factor relative to managers knowing their organization's business objectives.
Of the six SAM factors, only Communications, Competency, and Governance were significant to the discriminant function. Although the derived function is significant, its predictive capability is moderate, with a 30% probability of being better than chance alone. According to the resulting equation, the Communications dimension of the Maturity construct has the greatest contribution to the equation's ability to discern between knowing and not knowing business objectives. This result is as expected given the critical role of communication to sharing information between IT and business executives. Combined with the resulting strength of Communications in knowing IT objectives, these results reaffirm the importance of Communication in knowing IT and business objectives.

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TABLES AND REFERENCES

Tables and References available upon request from Deb Sledgianowski acsdas@hofstra.edu