

Chapter XIV

Development and Validation of an Instrument to Measure Maturity of IT Business Strategic Alignment Mechanisms

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ABSTRACT

Achieving IT-business alignment has been a long-standing, critical, information management issue. A theoretical framework of the maturity levels of management practices and strategic IT choices that facilitate alignment was empirically tested and validated. Confirmatory factor analysis (CFA) validated 6 factors and identified 22 indices to measure strategic alignment maturity. A mixed model repeated measure analysis of variance (ANOVA) obtained significant results for both the main effect and interaction effect of differences for the 6 maturity factors across the 11 business units. Regression analysis found a positive association between overall strategic alignment maturity and respondents' self-rated maturity. These exploratory findings show promise for the assessment instrument to be used as a diagnostic tool for organizations to improve their IT-business alignment maturity levels.

INTRODUCTION

IT and business leaders are continually looking to align their IT and business strategies. In their seventh annual survey, Computer Sciences Corporation (2005) reported that IT-business strategic alignment has persisted among the top-ranked issues of chief financial officers. In another study, over 300 Society for Information Management (SIM) executives ranked IT-business alignment as their number one management concern (Luftman & McLean, 2004). Research has shown that IT-business strategic alignment contributes to higher levels of organizational performance (Chan, Huff, Barclay, & Copeland, 1997) and perceived business value from IT (Tallon, Kraemer, & Gurbaxani, 2000). Lee and Pai (2003) found that the maturity of the information systems function has a strong effect on strategic information systems planning and that IT-business alignment improves with the effectiveness of a firm's planning process. Clearly, there is a need and benefit in determining mechanisms to facilitate the alignment of the IT and business functions.

We propose that IT-business strategic alignment can be facilitated by the management practices and strategic IT choices that an organization makes. There are different levels of implementation for these mechanisms, referred to as maturity. Luftman (2000) proposed a framework called strategic alignment maturity (SAM) that exhibits these organizational mechanisms. We used this framework as a model to develop and validate an instrument to measure SAM. Luftman's SAM framework includes five conceptual levels of strategic alignment maturity modeled after the capability maturity model (CMM) of software quality developed by the Software Engineering Institute at Carnegie Mellon (Humphrey, 1988). The SAM framework models the CMM in that the SAM describes key management practices and strategic IT choices at each of five levels. In the SAM framework, maturity levels are composed

of six key areas: communication, competency and value measurement, governance, partnership, scope and architecture, and skills. Each key area identifies a grouping of related mechanisms that, when performed collectively, are considered important for enhancing IT-business alignment capability. These areas form not only mechanisms, but also criteria that measure achievement of a maturity level. These areas are cumulative, meaning that an organization at level three, for example, will meet the criteria of both levels two and three.

The five levels of strategic alignment maturity are as follows:

1. **Initial/ad hoc process:** This is the lowest level of maturity; management practices and strategic IT choices to facilitate alignment do not exist or are ad hoc in nature.
2. **Committed process:** Management practices and strategic IT choices to facilitate alignment exist at a low level in the organization.
3. **Established focused process:** Management practices and strategic IT choices to facilitate alignment exist at a moderate level in the organization.
4. **Improved/managed process:** Management practices and strategic IT choices to facilitate alignment exist at a strong level in the organization.
5. **Optimized process:** Management practices and strategic IT choices to facilitate alignment are fully integrated and coadaptive between the business and IT function.

LITERATURE REVIEW

Several multistage or multilevel models have been proposed to describe various concepts related to IT-business alignment. King and Teo's (1997) model consists of four stages or levels of growth for the evolution of information systems planning.

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