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# Organizational and Information Systems Factors in Post-Merger Technology Integration

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## ABSTRACT

Many corporate mergers fail to achieve their intended objectives. The literature indicates that slow post-merger integrations are partly responsible for such failure and highlights that a successful post-merger integration is essential to a successful merger. Recognizing the fact that information systems (IS) integration is important for effective merger performance and that few IS and merger research has addressed this area, the objective of this article is to focus on organizational and information systems factors that affect post-merger IS integration performance with the eventual aim of identifying ways in which to manage the significant factors post-merger. This research is timely and relevant and will contribute to the body of research that facilitates the understanding and management of merger effectiveness and its associated processes.

## Keywords

Mergers, IS integration, Organizational factors, Information systems factors

## INTRODUCTION

The prevalence and ubiquitous nature of corporate mergers as external diversification strategies and the need to further understand post-merger integrations in order to improve mergers' performance are two major motives behind this research. Every year, thousands of companies, large and small, public and private, join forces through merger or acquisition (M&A), hoping to accomplish together what they could not accomplish separately (Lajoux, 2006).

Corporate mergers may be driven by market-based or resourced-based motives. Market-based motives encompass horizontal and vertical integration, market power gains, efficiency gains, geographic expansion, resource sharing, empire building, and diversification (Trautwein, 1990). Resource-based motives revolve around the acquisition of technologies, know-how, and capabilities (Chaudhuri and Tabrizi, 1999).

Despite their popularity, however, many mergers have been unsuccessful, suggesting that they are generally not well understood in practice. Success refers to the ability to reach the intended goals of the merger, based on the merger motives. A corporate merger is also considered successful if it achieves the synergies it promised at the time of the announcement of the deal, and its share price and revenue growth rate increases post-merger (Mehta and Hirschheim, 2004). A 1987 McKinsey & Co. study of 116 acquisitions shows that at least 61% failed to earn back equity capital invested within three years. Others believe that anywhere from 65% to 80% of mergers never deliver a real return on investment (Worthen, 2007). The lack of good merger performance indicates that much research is still needed in this area to help us understand what affects mergers' effectiveness.

Academic researchers have studied mergers from several disciplines and through various theoretical lenses (Schweizer, 2005). Regardless of the broad body of literature and the efforts to bridge the gap between existing merger research streams (Haspeslagh and Jeminson, 1991), a great deal of fragmentation still exists (Larsson and Finkelstein, 1999). In the field of finance, researchers have been concerned with identifying whether mergers create value (Lubatkin, 1987). The strategic

management field has focused on the performance effects of different types of mergers (Seth, 1990). Researchers in economics have been concerned with merger motives and performance (Goldberg, 1983). The human resources management literature on mergers identified psychological issues (Marks and Mirvis, 1986), the importance of effective communication (Schweiger and DeNisi, 1991), and the merger's effect on career and turnover (Hambrick and Canella, 1993). Organizational researchers have dealt with post combination integration (Haspeslagh and Jeminson, 1991), emphasizing the problem of combining different organizational cultures (Larsson and Lubatkin, 2001).

The literature cites slow, poor, or lack of post merger integration between merged firms as some of the primary causes of merger failure (Lajoux and Weston, 1998; Shrivastava 1986), including the integration of operations (Haspeslagh and Jeminson, 1987) and implementation difficulties (Ravenscraft and Scherer, 1987). Information systems (IS) play a big role in the integration of two companies, as these systems support critical business processes. A slow integration prolongs achieving the financial or resourced-based gains that might have made the deal attractive initially. The longer it takes to achieve the post-merger integration, including the systems integration, the less profitable the merger becomes. Paying premiums of 10% to 15% above market value for the target firm are also another cause for merger failure (Worthen, 2007).

In the context of a single company, systems integration can be defined as the unification of information systems and databases to improve the process flow and focus on customer services (Markus, 2000). Many organizations manage and maintain a diverse portfolio of IS and applications (Lam, 2005). The integration of these applications is often necessary to support broader enterprise-wide business solutions, such as supply chain management (SCM), customer relationship management (CRM), and enterprise resource planning (ERP). Enterprise application integration (EAI) is one approach to IS integration (Lam, 2005). Web Services are also a set of common technology standards being adopted by the industry to make applications and data integrate and interoperate.

In the context of mergers, systems are integrated to make systems among the merging firms consistent so that business processes flow more smoothly and information can be displayed in a unified way to support administrative and management decision making (adapted from Mendoza, Perez, and Griman, 2006). *IS integration performance* refers to the ability to integrate IS components as a result of a merger between two companies, where IS components refer to the infrastructure, processes, applications, people (skills) and culture that make up the information systems environment of the merging firms (Mehta and Hirschheim, 2004).

Few analysts have examined the problems of integrating firms after the merger has been consummated and the impact of this lack of integration on performance (Chakrabarti, 1990). Some IS and merger researchers have identified frameworks to classify different types of integrations (Buono and Bowditch, 1989; Hambrick and Cannella, 1993; Schweizer, 2005). However, few have specifically investigated how the IS functions of the two merging firms are integrated (Mehta and Hirschheim, 2004). Giacomazzi, Panella, Pernici, and Sansoni (1997) and Weber and Pliskin (1996) explored information Technology (IT) integration levels and IT infrastructure strategies and the effect of organizational culture on mergers, while Brown, Clancy, and Scholer (2003) provided details of the post-merger integration process and identified several critical success factors and lessons learned. The scarcity of empirical studies on the topic of post-merger IS integration and the connection found between a successful integration and effective merger performance substantiates the need for additional research in this area, thus making this research relevant.

## THE FACTORS

As previously categorized by Stylianou, Jeffries, and Robbins (1996), this research particularly focuses on four *organizational* and six *information systems* factors that can be shaped by the IS leadership teams, with the goal of targeting those that affect post-merger IS integration performance. By focusing on factors that can be managed, the study findings can propose to the leadership teams ways in which those teams could manage the significant factors, facilitating effective post-merger IS integration, impacting merger integration performance, and ultimately impacting overall merger effectiveness. Although other factors have been found to be associated with post-merger IS integration performance, because leadership teams cannot directly manage how the factors are manifested in the post-merger environment, those factors are excluded from the study. For example, factors such as *company merger experience* (Haleblian and Finkelstein, 1999; Bruton, Oviatt, and White, 1989), *similarity of merged firms' application portfolios* (Brown et al., 2003), and *level of data sharing* (Stylianou et al. 1996), to name a few, were excluded.

After a thorough review of the literature, each of the ten factors were selected based on the ability of management teams to shape them, their prominence across various information systems contexts, and their relevance to a post-merger IS integration. The IS context in which the literature exposes these factors and a representative sample of the literature that supports their inclusion in this study are further elaborated in Table 1. The four organizational factors include: executive (non-IS) management support for IS integration activities; quality of merger planning; quality of communication of merger

activities to IS; and degree of IS participation in merger planning. The six, manageable, IS factors of focus in this study include: quality of IS integration planning; quality of communication of IS integration activities to user areas; degree of end-user involvement in IS integration activities; quality of technical support to users during the IS integration; provision for end-user training due to the integration, and provisions for addressing IS employee morale. The following sub-sections introduce the factors and highlight key reasons why they are important during an IS integration.

### **Organizational Factors**

*Executive (non-IS) management support* promotes commitment, provides sponsorship, hands on leadership, and political support (Watson 2001). It has been found to have a positive influence in the development of information systems (Jarvenpaa and Ives, 1991), data warehousing projects (Wixon and Watson, 2001), expert systems (Yoon, Guimaraes, and O'Neal, 1995), implementation of IS innovations (Jarvenpaa and Ives, 1991), and integrations of computer-aided design/computer-aided manufacturing systems with resource planning systems (Soliman, Clegg, and Tantoush, 2001). It has also been found significant in the context of IS integration leadership (Brown et al., 2003; Datta, 1991).

The *quality of merger planning* facilitates the identification of details critical to the merger deal's success (Haspeslagh and Jeminson, 1991), the decision making process, and communicating that structure to the merger firms (Massimilian, 2001). It helps mitigate merger failure risks, where risks are factors that can adversely affect a project, unless project managers take appropriate countermeasures (Wallace and Keil, 2004). Some of the risks a quality merger plan helps to mitigate also include people issues, culture clashes (Buono, Bowditch, and Lewis, 1985), and intangible losses, namely losses associated with experience/memory, motivation, commitment, and competence found in people (Larsson, Driver, Holmqvist, and Sweet, 2001).

Similarly, the *quality of communication of merger activities to IS* facilitates collaboration between the business teams and the IS teams and aids these two groups in staying aligned (Lind and Zmud, 1991). Communication allows IS teams to understand and ultimately plan to meet the users' needs and integration expectations. The importance of quality communication is emphasized in the context of software projects success/failure factors (Glass 1999), between developers and end-users (DeBrabander and Thiers, 1984), among process re-engineering implementations success/failure factors (Davenport 1993), and within post-merger IS integration projects (Stylianou et al., 1996; Robbins and Stylianou, 1999). Specifically, communication is considered one of the three most important factors in collaborative software development success, being both a risk source (origin for problems) or a risk driver (a manifestation of an existing problem) or both (Mohtashami, Marlowe, Kirova, Deek, 2006).

*Degree of IS participation in merger planning* is conducive to IS teams staying aligned with the business goals and having a better understanding of executive's objectives (Lederer and Burky, 1988).

### **Information Systems Factors**

*Quality of IS integration planning* impacts when and how major IS resources, assets, processes and commitments of the merged firms will be combined to achieve the strategic objectives of the merger (Lajoux, 2006). A disciplined IS integration program based upon best practices and a solid plan that explains the motives for the merger is a sound place to start in order to capture maximum value (Vester, 2002). A quality IS integration plan can be used to set realistic integration expectations and to outline the strategic role that the IS team will play in supporting the new organization (Bailey, 2001).

*Quality of communication of IS integration activities to user areas* helps generate understanding between the IS teams and user areas regarding the progress of merger activities, stimulates understanding and support from the end-user constituency (Robbins and Stylianou, 1999), and facilitates information sharing on comparative analysis of the relevant systems (Brown et al., 2003). Communication between developer teams and end-users has been associated with success and failure of computer-based systems implementations (DeBrabander and Thiers, 1984). Communication is also critical in the context of enterprise resource planning project implementations (Na and Delgado, 2006) and in the context of diffusion of innovations (Rogers, 1982).

*Degree of end-user involvement in IS integration activities* establishes the extent to which end-users partake in IS-related integration activities. End-user involvement leads to improved participative decision making and group problem solving. Among other benefits, user participation in systems development is predicted to provide more accurate and complete assessment of user information requirements, improve user understanding of the system, and lead to increased user acceptance (Robey and Farrow, 1982). In traditional software engineering disciplines, it is deemed key to success (Clavadetscher, 1998).

*Quality of technical support to users during the IS integration* may ultimately affect systems use (Fishbein and Ajzen, 1975), a widely documented dependent variable in MIS research. Sustained IS usage intentions may hinge on the efficacy of the local computer specialist group in providing technical support (Karahanna, Straub, and Chervany, 1999). Technical support may also influence user information satisfaction, which has been accepted as a major evaluation criteria for the performance of IS departments and their staff (Joshi and Bostrom, 1986). MIS research has found that one of the most dominant factors that influences user information satisfaction is attitude towards IS staff and services, which includes items such as time taken for development of new systems and relationship with IS staff (Joshi and Bostrom, 1986).

*Provision for end-user training due to the integration* aids users to understand the software tools they require to perform their jobs, improving their education and computer efficacy. Training has been linked to the success of end-user computing (EUC) satisfaction, and identified as a critical factor and an effective mechanism for ensuring EUC success (Zmud and Lind, 1985). Training may also help to enhance employee's self-efficacy, the belief that one has the capabilities to perform a particular behavior, and computer self-efficacy, the judgment of one's capability to use a technology (Compeau and Higgins, 1995). It also provides end-users with conceptual and procedural knowledge about the target system (Venkatesh, 1999), affects perceived ease of use (Venkatesh and Davis, 1996), and has a positive relationship with the acceptance of IT within an end-user environment (Cronan and Douglas, 1990).

The last information systems factor of focus in this study is *provision for addressing IS employee morale*, which may play a significant role in employee departures throughout the merger (Hambrick and Canella, 1993). It may be addressed by focusing on controlling negative factors such as anxiety, which can be minimized by communicating to employees as soon as possible about all anticipated affects of the changes as a result of the merger (Schweiger and Denisi, 1991). Anxiety can lead to job stress, job dissatisfaction, low commitment, low trust in organization and increased intentions to leave the organization (Ashford, Lee, and Bobko, 1989).

Organizational Factors	IS Context	Authors
Executive (non-IS) management support	Development and management of IS Data Warehousing projects Expert systems projects System development projects Integration of computer-aided design/computer-aided manufacturing systems with resource planning Runaway projects IS integration leadership Implementation of IS innovations Merger IS integrations	Jarvenpaa and Ives, 1991 Wixon and Watson, 2001 Yoon, et al, 1995 Leitheiser and Wetherbe, 1986 Soliman, et al, 2001 Mahaney and Lederer, 1999 Brown, et al., 2003; Datta, 1991; Robbins and Stylianou, 1999 Jarvenpaa and Ives, 1991 Stylianou, et al., 1996
Quality of merger planning	Software project risk management Merger IS integrations	Haspeslagh and Jeminson, 1991; Wallace and Keil, 2004 Massimilian, 2001; Robbins and Stylianou, 1999; Larsson, et al. 2001
Quality of communication of merger activities to IS	Collaborative software development Business/IS alignment Improved team understanding Merger IS integrations	Mohtashami, et al., 2006 Reich and Benbasat, 2000 Lind and Zmud, 1991 Stylianou, et al., 1996
Degree of IS participation in merger planning	Business/IS alignment IS participation in business planning IS participation in merger strategy phase Merger IS Integrations	Reich and Benbasat, 2000 Lederer and Burky, 1988 Grover, et al., 1993 Stylianou, et al., 1996

IS Factors	IS Context	Authors
Quality of IS integration planning	Merger integrations management Software project risk management Merger IS integrations	Lajoux, 2006; Vester, 2002; Bailey, 2001 Haspeslagh and Jeminson, 1991 Wallace and Keil, 2004 Stylianou, et al., 1996
Quality of communication of IS integration activities to user areas	Merger IS integrations Computer-based systems implementations ERP project implementations Merger integrations management Diffusion of innovations IS integration leadership	Robbins and Stylianou, 1999 DeBrabander and Thiers, 1984 Nah and Delgado, 2006 Bailey, 2001 Rogers, 1982 Brown, et al., 2003
Degree of end-user involvement in IS integration activities	Systems development/Software engineering projects Planned organizational change theory Merger IS integrations	Robey and Farrow, 1982; Clavadetscher, 1998 Ives and Olson, 1984 Robbins and Stylianou, 1999
Quality of technical support to users during the IS integration	Systems use Information satisfaction	Fishbein and Ajzen, 1975; Karahanna, et al., 1999 Joshi and Bostrom, 1986
Provisions for training due to integration	End-user computing End-user education level Computer self-efficacy User perceptions & attitudes Perceived ease of use Usage End-user acceptance	Zmud and Lind, 1985 Davis and Davis, 1990 Compeau and Higgings, 1995; Venkatesh, 1999; Raymond, 1990 Venkatesh and Davis, 1996 DeLone, 1988 Cronan and Douglas, 1990
Provisions for addressing IS employee morale after merger	Mergers – resistance Mergers – managers turnover Mergers - deterioration in operating performance Mergers – intangible losses Mergers – anxiety Empowerment	Buono, et al., 1985; Sales, Mirvis, 1984 Hambrick and Canella, 1993 Very, et al. 1997 Larsson, et al. 2001 Ashford, et al., 1989; Buono, et al., 1985 Dunker, 1994

**Table 1. Organizational and IS Factors – Literature Support**

## METHODOLOGY

The objectives of this study are to assess the influence of the ten organizational and IS factors on IS integration success and to generalize the results to the target population. The data required is being captured as of a certain point in time from senior IS executives in companies which completed a merger or acquisition. Due to the nature of this target population, one that is difficult to reach and whose time constraints are high, the data must be collected in an expedient and effective manner from a sample that is large enough to make the findings generalizable to the target population. With these objectives in mind, *Proceedings of the Fourteenth Americas Conference on Information Systems, Toronto, ON, Canada August 14<sup>th</sup>-17<sup>th</sup> 2008*

descriptive, cross-sectional survey design was selected, relying on a mail and e-mail, self-administered survey assessment instrument.

The survey instrument was developed in two stages. First, a preliminary questionnaire was developed using a subset of validated scales and questions applied by Stylianou et al. (1996) and Robbins and Stylianou (1999) to measure the organizational and IS factors and IS integration success. Second, the instrument was improved upon based on feedback from dissertation committee members and a pilot conducted with IS management team members, which tested the study data collection procedures, helped to remove ambiguity and improve the instrument's readability.

Specifically, the target population and sampling units for this study are senior IS executives at organizations that have completed a U.S. public merger greater than 25 Million, as identified in the *Mergers & Acquisitions: The Dealermaker's Journal* and Lexis Nexis' Hoover's company records. 1,000 IS executives identified within companies that completed a merger during the time period from 2005 to 2006 were selected to be included in the sample. Data is being collected through the summer of 2008.

The survey data will be statistically analyzed using the Statistical Package for the Social Sciences, SPSS. Descriptive statistics, Chronbach's alpha scores, composite scores, and confirmatory principal component factor analysis will be conducted on the organizational and information systems factors. To test the study hypotheses, standard multiple regression analysis will be conducted. The Analysis Plan (See Appendix 1) presents a comprehensive summary.

## RECOMMENDATION

In order to hone in on the meaningful factors impacting post-merger integration performance, we intend to conduct a study using a descriptive, cross-sectional survey design, where the target population and sampling unit will be senior IS executives at organizations that have completed a U.S. public merger. In order for the study results to be meaningful to the IS field and senior IS management teams, the data will be collected from senior IS professionals in the field. The survey instrument was enhanced, with its origin from a subset of validated scales and questions applied by Stylianou et al. (1996) and Robbins and Stylianou (1999) to measure the organizational and IS factors and post-merger IS integration performance.

At the conclusion of the study, we hope to have isolated the impactful factors, those that have a significant correlation with post-merger IS integration performance. The findings will enable us to make recommendations to senior IS management teams as to how those critical factors may be managed post-merger.

## CONCLUSION

After performing a comprehensive scan of the literature, we targeted four organizational factors and six information systems factors which can be managed or influenced by the management teams during the post-merger IS integration process, are prominent across various information systems contexts, and are relevant to a post-merger IS integration. Via a self-administered survey assessment instrument, we propose to explore each of the 10 factors through a study that will expose those that have significant impact on post-merger IS integration performance. Based on the study findings, our intent is to then recommend to senior IS management ways to manage the significant factors in the post-merger environment.

This research is timely and will make valuable contributions to the IS field. The study consolidates literary references that support the selection of the factors and will expose the role of the factors that can be impacted by management teams, allowing those teams to enable positive post-merger integration performance. The study will specifically investigate sources affecting post-merger IS integration performance, a key component of the overall integration between merging firms, and thus will contribute by enhancing the body of research and the knowledge-base that helps us understand what affects merger's effectiveness.

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## APPENDIX 1: ANALYSIS PLAN

Analysis Component	Variable type / Level	Survey Question	Analysis
Demographic Data and merger profile data	Title at time of IS integration /nominal Years of IS management experience /ratio Years of experience with IS integrations /ratio Years of merger experience /ratio Services provided at the respondent's location/nominal Number of employees at the respondent's firm (total and respondent's location)/ratio Year when the merger was completed/ratio Role of the respondent's firm in the merger/nominal	Q20 Q21 Q22 Q23 Intro, pg. 2 Intro, pg. 2 Intro, pg. 2 Intro, pg. 2	Descriptive statistics
Organizational & IS factors	Independent / interval	Q10; Q13: a,b; Q11: b; Q12: a,b; Q13: c; Q11:a; Q14; Q15&Q17; Q18: a, b; Q16	Confirmatory principal component factor analysis
IS integration success measures using scales	Dependent / interval	Q1: a – l; Q2: a, b; Q4: a, b; Q3: a, b, c	Composite scores
Organizational & IS factor measures using scales	Independent / interval	Q13: a,b; Q12: a,b; Q15&Q17; Q18: a, b	Composite scores
IS integration success measures	Dependent / interval	Q1 – Q5	Composite score
Scales internal consistency	N/A	Q1: a – l; Q2: a, b; Q4: a, b; Q3: a, b, c; Q13: a,b; Q12: a,b; Q15&Q17; Q18: a, b	Cronbach's alpha scores

Analysis Component	Variable type / Level	Survey Question	Analysis
Respondent bias (i.e. only those involved in a successful merger respond)	Independent: Perceived merger success Dependent: 5 IS Integration Success measures (See H1)	Independent: Q6 Dependent: See H1	Five Pearson $r$ correlations. If a correlation is found, perceived merger success will be used as a covariate in subsequent analyses.
Executive (non-IS) management support for IS integration activities influences post-merger IS integration success measures, such that greater executive (non-IS) management support for IS integration activities results in greater post-merger IS integration success measures.	Independent: Executive (non-Is) management support Dependent: IS Integration Success: Improved IS capability outcomes IS contribution to the overall merger schedule and merger budget IS ability to exploit opportunities and avoid problems arising from the merger IS resource utilization IS integration success	Independent: Q10 Dependent: Q1: a – l Q2: a, b Q4: a, b Q3: a, b, c Q5	Multiple regression  (All 10 independent variables entered at once, while each of the five IS success measures is entered one at a time)
Quality of merger planning influences post-merger IS integration success measures, such that greater quality of merger planning results in greater post-merger IS integration success measures.	Independent: Quality of merger planning Dependent: 5 IS Integration Success measures (See H1)	Independent: Composite score Q13: a, b Dependent: See H1	Multiple regression See H1
Quality of communication of merger activities to IS influences post-merger IS integration success measures, such that greater quality of communication of merger activities to IS results in greater post-merger IS integration success measures.	Independent: Quality of communication of merger activities to IS Dependent: 5 IS Integration Success measures (See H1)	Independent: Q11: b Dependent: See H1	Multiple regression See H1
Degree of IS participation in merger planning influences post-merger IS integration success measures, such that greater degree of IS participation in merger planning results in greater post-merger IS integration success measures.	Independent: Degree of IS participation in merger planning Dependent: 5 IS Integration Success measures (See H1)	Independent: Composite core Q12: a, b Dependent: See H1	Multiple regression See H1

Analysis Component	Variable type / Level	Survey Question	Analysis
Quality of IS integration planning influences post-merger IS integration success measures, such that greater quality of IS integration planning results in greater post-merger IS integration success measures.	Independent: Quality of IS integration planning Dependent: 5 IS Integration Success measures (See H1)	Independent: Q13: c Dependent: See H1	Multiple regression See H1
Quality of communication of IS integration activities to user areas influences post-merger IS integration success measures, such that greater quality of communication of IS integration activities to user areas results in greater post-merger IS integration success measures.	Independent: Quality of communication of IS integration activities to user areas Dependent: 5 IS Integration Success measures (See H1)	Independent: Q11: a Dependent: See H1	Multiple regression See H1
Degree of end-user involvement in IS integration activities influences post-merger IS integration success measures, such that greater degree of end-user involvement in IS integration activities results in greater post-merger IS integration success measures.	Independent: Degree of end-user involvement in IS integration Dependent: 5 IS Integration Success measures (See H1)	Independent: Q14 Dependent: See H1	Multiple regression See H1
Quality of technical support to users during the IS integration influences post-merger IS integration success measures, such that greater quality of technical support to users during the IS integration results in greater post-merger IS integration success measures.	Independent: Quality of technical support to users during the IS integration Dependent: 5 IS Integration Success measures (See H1)	Independent: Composite score: Q15 & Q17 Dependent: See H1	Multiple regression See H1
Provisions for training due to integration influences post-merger IS integration success measures, such that greater provisions for training due to integration results in greater post-merger IS integration success measures.	Independent: Provisions for training due to integration Dependent: 5 IS Integration Success measures (See H1)	Independent: Composite score Q18: a, b Dependent: See H1	Multiple regression See H1
Decline in IS employee morale influences post-merger IS integration success measures, such that greater decline in IS employee morale results in lower post-merger IS integration success measures.	Independent: Decline in IS employee morale Dependent: 5 IS Integration Success measures (See H1)	Independent: Q16 Dependent: See H1	Multiple regression See H1

Analysis Component	Variable type / Level	Survey Question	Analysis
H11-1. The degree of IS integration moderates the relationship between executive (non-IS) management support and IS integration success.	Independent: (1) Executive (non-IS) management support Product of (1) and (2) Moderator: (2) Degree of IS integration Dependent: Composite score for 5 IS Integration Success measures (See H1)	Independent: Q10 Q10 X Q7 Moderator: Q7 Dependent: See H1	Multiple regression  (Factors will be entered one at a time, along with the moderator and the product of the interaction of the factor and the moderator. If the interaction term is significant, then the hypothesis will be supported.)
H11-2. The degree of IS integration moderates the relationship between quality of merger planning and IS integration success.	Independent: (1) Quality of merger planning Product of (1) and (2) Moderator: (2) Degree of IS integration Dependent: Composite score for 5 IS Integration Success measures (See H1)	Independent: (1) Composite score Q13: a, b (1) X Q7 Moderator: Q7 Dependent: See H1	Multiple regression  (See H11-1)
H11-3. The degree of IS integration moderates the relationship between quality of communication of merger activities to IS and IS integration success.	Independent: (1) Quality of communication of merger activities to IS Product of (1) and (2) Moderator: (2) Degree of IS integration Dependent: Composite score for 5 IS Integration Success measures (See H1)	Independent: (1) Q11: b (1) X Q7 Moderator: Q7 Dependent: See H1	Multiple regression  (See H11-1)

Analysis Component	Variable type / Level	Survey Question	Analysis
H11-4. The degree of IS integration moderates the relationship between degree of IS participation in merger planning and IS integration success.	Independent: (1) Degree of IS participation in merger planning Product of (1) and (2) Moderator: (2) Degree of IS integration Dependent: Composite score for 5 IS Integration Success measures (See H1)	Independent: (1) Composite core Q12: a, b (1) X Q7 Moderator: Q7 Dependent: See H1	Multiple regression (See H11-1)
H11-5. The degree of IS integration moderates the relationship quality of IS integration planning and IS integration success.	Independent: (1) Quality of IS integration planning Product of (1) and (2) Moderator: (2) Degree of IS integration Dependent: Composite score for 5 IS Integration Success measures (See H1)	Independent: (1) Q13: c (1) X Q7 Moderator: Q7 Dependent: See H1	Multiple regression (See H11-1)
H11-6. The degree of IS integration moderates the relationship between quality of communication of IS integration activities to user areas and IS integration success.	Independent: (1) Quality of communication of IS integration activities to user areas Product of (1) and (2) Moderator: (2) Degree of IS integration Dependent: Composite score for 5 IS Integration Success measures (See H1)	Independent: (1) Q11: a (1) X Q7 Moderator: Q7 Dependent: See H1	Multiple regression (See H11-1)
H11-7. The degree of IS integration moderates the relationship between degree of end-user involvement in IS integration and IS integration success.	Independent: (1) Degree of end-user involvement in IS integration Product of (1) and (2) Moderator: (2) Degree of IS integration Dependent: Composite score for 5 IS Integration Success measures (See H1)	Independent: Q14 Q14 x Q7 Moderator: Q7 Dependent: See H1	Multiple regression (See H11-1)

Analysis Component	Variable type / Level	Survey Question	Analysis
H11-8. The degree of IS integration moderates the relationship between quality of technical support to users during the IS integration and IS integration success.	Independent: Quality of technical support to users during the IS integration (1) Product of (1) and (2) Moderator: (2) Degree of IS integration Dependent: Composite score for 5 IS Integration Success measures (See H1)	Independent: (1) Composite score: Q15 & Q17 (1) X Q7 Moderator: Q7 Dependent: See H1	Multiple regression (See H11-1)
H11-9. The degree of IS integration moderates the relationship between provisions for training due to integration and IS integration success.	Independent: (1) Provisions for training due to integration Product of (1) and (2) Moderator: (2) Degree of IS integration Dependent: Composite score for 5 IS Integration Success measures (See H1)	Independent: (1) Composite score Q18: a, b (1) X Q7 Moderator: Q7 Dependent: See H1	Multiple regression (See H11-1)
H11-10. The degree of IS integration moderates the relationship between decline in IS employee morale and IS integration success.	Independent: (1) Decline in IS employee morale Product of (1) and (2) Moderator: (2) Degree of IS integration Dependent: Composite score for 5 IS Integration Success measures (See H1)	Independent: Q16 Q16 X Q7 Moderator: Q7 Dependent: See H1	Multiple regression (See H11-1)