WAITING FOR THE OTHER SHOE TO DROP: HAS INFORMATION TECHNOLOGY INTEGRATED MARKETING OPERATIONS WITH MARKETING STRATEGY?

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ABSTRACT

This research empirically reconsiders Good and Stone's hypothesis of a "...two-stage process ... in which: (1) computer use improves managers' operational capabilities, and (2) these improved operational capabilities lead to successful computer systems that foster improved strategies" (11). Based on their analysis, the original authors concluded support for the first stage. However, they were unable to find support for the second. The current study analyzes the data provided by the respondents of a recent national random sample of marketing managers to retest the original model. The results confirmed the significance of information technology in integrating marketing operations with marketing strategies. The findings offer support for the posited second stage. It seems that the other shoe has dropped.

INTRODUCTION

In a recent study, Good and Stone (11) developed measures to determine the efficiency and success of information technology (IT) in organizations. These measures addressed the efficiency of information systems in communication, productivity of work, and operations. They also established the success of IT in improving decisions and strategies. As such, they were used to support the constructs used in testing relationships between IT-assisted communications, productivity of work, operations, decision-making, and strategy.

Based on data from a systematic national random sample of marketing managers, support was found for the positive effect of IT-assisted communication on productivity of work and marketing operations. The results also indicated that IT-assisted productivity of work had a positive effect on operations and decision-making. Moreover, IT-assisted decision-making had a positive effect on strategy. However, support was not found for the hypothesized positive effect of IT-assisted operations on strategy. The authors concluded that IT-enabled operations had not led to successful IT-enabled strategies. Similar to Mintzberg's (22) analogy of planned and emergent strategies as one foot following the other, the results seemed to suggest that only the first shoe had dropped.

The purpose of our research is to retest the 1995 model using current data. As we move forward in our reexamination of the evidence, for or against the existence of the second of a two-stage process, we proceed as follows. First, we briefly describe the earlier empirical study. Next, building on the original work, we redevelop the research hypotheses guided by our review of the literature. Following this, we report the results of our reassessment of the model in general and, more specifically, of our reexamination of the evidence of a direct link between operational IT and strategic IT. Finally, we draw conclusions, offer managerial implications, and conclude the article by enumerating several directions for future research.

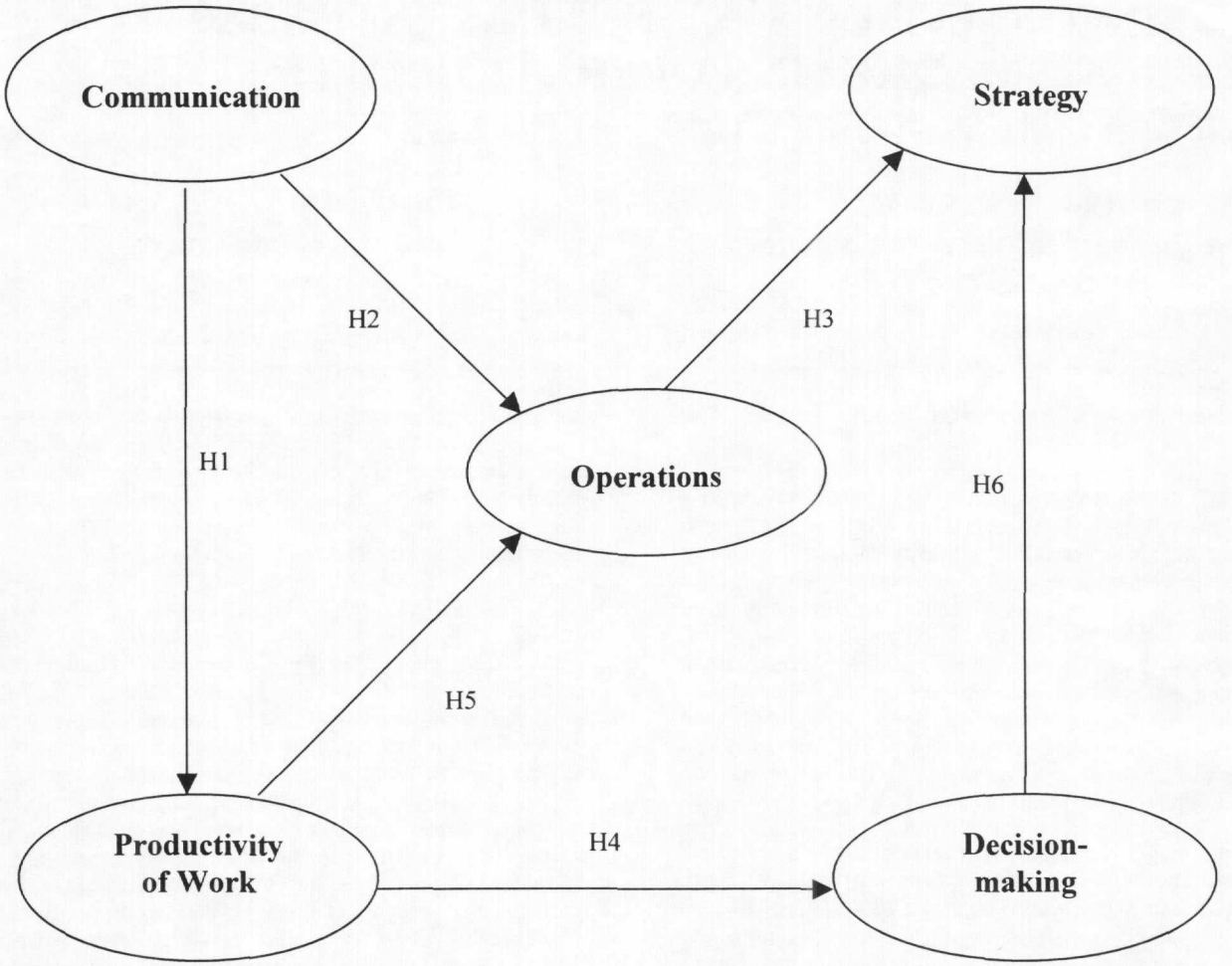
FINDINGS OF THE ORIGINAL STUDY

Good and Stone (11) proposed a model of IT utilization in marketing organizations based on the efficiency of IT in communication, productivity of work, and operations and on the success of IT improving decisions and strategies. After finding no direct link between IT-assisted operations and strategy they suggest that IT adoption by marketing managers may follow a two-stage process. First, marketing managers augment their operational capabilities by using IT. Next, these improved operational capabilities lead to a second stage in which marketing managers use IT to improve marketing strategies.

Their model of IT in the marketing organization was structured as follows. Organizational communication was conceptualized as IT related improvements in interorganizational and intraorganizational communications. The quality and quantity of work performed in organizations using IT were viewed as productivity of work. The marketing operations construct measured IT improved marketing functions. The success of IT in improving decisions was seen as improvements in the speed, analysis, and ease of decision-making. Finally, the success of IT in improving marketing strategies was conceptualized as a construct representing IT as a source of differential advantage. Figure 1 represents the structural model of IT in the marketing organization. Hereafter, we refer to these constructs as communication, productivity of work, operations, decision-making, and strategy, respectively.

Except for the causal relationship between IT-assisted operations and strategies, Good and Stone (11) found empirical support for each of their research hypotheses. Based on their results, the authors concluded "computerization improving marketing operations has no direct bearing on a successful computer system improving marketing strategies" (11). Although marketing managers distinguished between operational and strategic responsibilities, they did not perceive IT as providing a direct link between these managerial functions. However, they suggest that IT assisted operations and strategy are intertwined and see IT as providing an integrative force over time.

FIGURE 1
A Model of the IT-assisted Marketing Organization (adapted from Good and Stone, 1995)



RESEARCH HYPOTHESES

In the following sections, we build upon the research hypotheses proposed and tested by Good and Stone (11). The theoretical rationale underlying our hypotheses were based on their work and supplemented by other relevant studies discussed in more recent literature.

Organization Communication

In the structural model hypothesized and tested, communication was conceptualized as the latent exogenous construct that directly or indirectly affected the remaining latent constructs (Figure 1). Our review of the recent literature supports this view. Cushman (9) identified reductions in organizational cycle time as being greatly dependent on enhancements in organizational communications processes. Other researchers have suggested that efficiency of communication may be an indicator of organizational performance (12) and that a positive relationship between perceived measures of communication quality and overall performance has been demonstrated (27). Reducing cycle time and increasing performance should positively influence work performed by the organization.

Researchers have also studied the significance of communication quality (20) and its effect on dysfunctional conflict (21). Empirical support exists for the positive effect of real-time organizational information flows on the influence of design and market effectiveness (23). In an examination of organizational factors influencing new product success among alliance partners, Sivadas and Dwyer (26) concluded that communication, in combination with trust and coordination, was significant. Reduced conflict and increased effectiveness should positively influence operations. Consequently, as Good and Stone (11) hypothesized:

H_1. Organization communications as facilitated by IT have positive impacts on the productivity of work performed in the marketing organization.

H_2. Organization communications as facilitated by IT have positive impacts on marketing operations.

Marketing Operations and Successful IT Improving Marketing Strategies

Good and Stone (11) argue that managers may envision the role of IT in improving strategies once they become proficient in

its use to achieve operational efficiency. They suggest a two-stage process in which the successful use of IT in improving operations may eventually lead to the strategic use of IT and, as a result, to enriched strategies. Our review of the empirical studies on operational and strategic IT supports their assertion.

In conceptualizing managerial decision-making as an ongoing process of developing solutions to problems, Berthon Pitt, and Ewing (6) equate the difference between operational and strategic problems with the distinction between efficiency and effectiveness. Operational problems tend to emphasize short-term solutions to improve efficiency with localized organizational impact. Strategic problems, on the other hand, emphasize long-term implications and highlight overall organizational impact including any implications relative to competitive advantage (6). Managers who successfully integrate operational IT with strategic IT are likely to use the resulting systems to create new products and services, develop and maintain relationships with suppliers and customers, and identify and exploit opportunities to transform their operational effectiveness into sustainable competitive advantages and, as a result, achieve superior firm performance (16).

Blois (7) argued that, among service industries, the various benefits of using IT could support one or more marketing strategies. These benefits include "reduced cost of information handling, increased speed of information transfer, increased customer involvement in and control of transactions, greater flexibility of product specifications, and greater reliability of information transferred" (7). Tallon, Kraemer, and Gurbaxani (28) reported that executives of firms where the corporate goals of IT included high levels of operational effectiveness and strategic positioning (dual focus firms) perceived the highest levels of payoffs from IT investments. For these firms, the perceived IT business value was highest in production and operations (operational efficiency) and in customer relations (strategic positioning). Consequently, we expect successful use of IT to enable managers to translate improvements in operations into improved strategies. Thus, as Good and Stone (11) hypothesized:

H_3: Marketing operations facilitated by successful IT have positive impacts on improving marketing strategies.

Organization Communication and Successful IT Improving Decisions

Good and Stone (11) proposed an indirect link between communication and decision-making (Figure 1). They argue that communication, as facilitated by IT, will positively impact productivity of work that, in turn, will improve decisions made in the organization. Thus, productivity of work was modeled as the causal antecedent of successful IT improving decisions since, "as managers improve their input (i.e., work productivity), a better foundation is established from which improved decisions can be created" (11). Accordingly, they hypothesized:

H_4: The productivity of work in the marketing organization facilitated by successful IT has positive impacts improving decisions made in the organization.

The Effect of Productivity of Work on Marketing Operations

Since the objective of technology is not more data but better information (25), the use of IT will enable an increase in the quality and amount of work completed. Increased productivity resulting from higher information quality is expected to have a positive effect on operations by reducing inventory levels, lead times, and overall cycle times (125), and by standardizing work processes (24). Continued use will enhance the explicit and tacit IT knowledge of managers and allow them to reap the benefits of IT-enabled business processes (4). Consequently, we concur that, as Good and Stone (11) hypothesized:

H_5: The productivity of work facilitated by IT has positive impacts on marketing operations.

The Effect of Decisions on Improving Marketing Strategies

While analyzing the impact of technological sophistication and organization structure on the relationship between decision-making style and firm performance, Covin, Slevin, and Heeley (8) suggested that decision-making style may be determined by an examination of how strategic decisions are made by top managers. The authors found support for the hypothesis that in low-tech industries, technocratic decision-making styles were more strongly related to performance in firms with organic structures. Technocratic decision-making involves extensive use of quantitative decision-making tools (18). Thus, the use of IT is likely to facilitate a technocratic decision-maker's tendency to be systematic, analytical and scientific while making decisions. Since organic structures are characterized by "decentralized decision making, organizational adaptiveness and flexibility, open communications, and a de-emphasis on formal rules and procedures" (8), the use of IT is likely to enhance the organicity of marketing organizations. Accordingly, IT induced improvements in decisions are expected to have a direct positive effect on strategy.

In addition, our review of the literature yielded several examples of this positive relationship between decision-making and strategy. Belrado, Duchessi, and Coleman (5) outlined a strategic decision support system (DSS) that can help managers learn about strategic concepts, facilitate their strategic thinking, and validate their strategies. In retailing, Klosterman and Xie (19) described a DSS useful for determining location, size, and market characteristics. Degraeve and Roodhooft (10) described an automated decision model for developing successful purchasing strategies. Kathuria, Anandarajan, and Igbaria (17) tested a DSS that can be used by managers to evaluate the fit between competitive priority and dominant process structure in their organizations. Therefore, following Good and Stone (11), we hypothesize that

H_6: Decisions assisted by successful IT have positive impacts improving marketing strategies.

METHOD

In the following sections, we describe the method we used to retest Good and Stone's (11) model. We first describe the procedure used to collect our data. Then we describe the measures used in our study.

Sample

The data for the study were obtained from a national random sample of 2000 marketing managers. One month after an initial contact a follow-up mailing was conducted. A total of 233 usable responses were received. The response rate was 11.65%.

Fifty-one percent of the respondents were VP of marketing for their organization. Eighteen percent held the title of marketing manager. The remaining respondents held a variety of managerial positions including advertising/marketing manager,

director of marketing and administration, sales/marketing manager, and sales manager. Approximately 76% of the respondents were male. On average, the respondents were 43.5 years old and reported working for their organization for over nine years.

Following Armstrong and Overton (3), we assessed non-response bias by comparing early and late respondents. T-tests of means indicated that early and late respondents did not differ significantly on age, experience, and evaluations of the role of IT in their organizations. Consequently, non-response bias was not an issue in the current study.

Measures

We adapted the measures of the 1995 study for our analysis. Respondents indicated their agreement or disagreement to a series of statements regarding IT in their organizations. A seven-point Likert scale was used where the endpoints were 1 (strongly disagree) to 7 (strongly agree). We refer the interested reader to the original Good and Stone (11) article for additional detail.

ANALYSIS AND RESULTS

We used structural equation modeling to assess the measurement models and to test the hypothesized relationships. LSISREL 8.30 was used for the confirmatory factor analysis (CFA) of the measurement models and to test the hypothesized paths of the structural models. After accounting for missing data, 219 valid cases remained for the analyses. The items were specified as reflective measures of the five latent constructs and each item was specified as a manifest indicator of a single latent construct as defined in the original study. Table 1 displays the items used as well as various characteristics of the measurement model.

TABLE 1
Confirmatory Factor Analysis Results of the Measurement Model

Constructs and Indicators	λ[1]	T[2]	ρ[3]	VE[4]	α[5]
Operations			0.89	0.59	0.89
In my firm's marketing organization, computer systems have:					
1. Improved distribution of our products.	0.73	12.21			
2. Encouraged product improvement and/or development.	0.77	13.21			
3. Improved the impact of advertising.	0.70	11.52			
4. Helped reduce market costs.	0.71	11.65			
5. Helped increase sales.	0.86	15.52			
6. Improved customer satisfaction.	0.85	15.20			
Communication			0.88	0.79	0.89
In my firm's marketing organization, computer systems have:					
7. Improved interorganizational communication.	0.89	15.86			
8. Improved intraorganizational communication.	0.89	15.72			
Productivity of work			0.84	0.73	0.85
In my firm's marketing organization, computer systems have:					
9. Increased the amount of work completed.	0.79	13.33			
10. Increased the quality of work completed.	0.91	16.15			
Decision-making			0.91	0.77	0.89
I personally consider a computer system a success if it:					
11. Helps decisions take less time.	0.85	15.20			
12. Allows greater confidence in the decisions made.	0.95	18.01			
13. Makes decision-making easier.	0.83	14.61			
Strategy			0.83	0.64	0.82
I personally consider a computer system a success if it:					
14. Provides a competitive advantage.	0.53	8.03			
15. Leads to the identification of new products or services.	0.94	16.67			
16. Leads to the identification of new markets.	0.87	14.92			

[1]Standardized Path Coefficients
[2]T-values of the Path Estimates
[3]Composite Reliability
[4] Average Variance Extracted
[5]Coefficient Alpha
GFI = 0.89, AGFI = 0.85, CFI = 0.94, IFI = 0.94, NFI = 0.91; NNFI = 0.93,
SRMR = 0.06, RMSEA = 0.07, χ^2 = 227.85 with 94 degrees of freedom (p=0.00).

As Table 1 indicates, the measurement model had a reasonably good fit. Although the χ^2 value was significant (227.85 for 94 degrees of freedom), the goodness of fit index (GFI) was 0.89, the adjusted goodness of fit (AGFI) was 0.85, the comparative fit index (CRI) was 0.94, the incremental fit index (IF) was 0.94, and the non-normed fit index (NNFI) was 0.93. Following Hu and Bentler (13), these fit indices indicate a reasonably good model fit. The standardized root mean square residual (SRMR) was 0.06 and the root mean square error of approximation was 0.07. The coefficient α's of the constructs

ranged from 0.82 to 0.89. Based on the standardized parameters, the composite reliabilities ranged from 0.83 to 0.91, and the average variance extracted for each construct exceeded 0.50.

We assessed the convergent and discriminant validity of the latent constructs using the methods recommended by Anderson and Gerbing (2). Convergent validity is indicated if the path coefficients from latent constructs to their corresponding manifest indicators are statistically significant. As Table 1 indicates, the t-value of each path coefficient was greater than 1.96. We assessed discriminant validity by constraining the correlation of each pair of latent constructs to 1.0 and comparing the χ^2 of the constrained model to that of the unconstrained model. For each part of latent constructs, the χ^2 of the constrained model exceeded that of the unconstrained model by more than 3.84 ($\chi^2_{(1)}$). The smallest $\Delta\ \chi^2$ value was 49.11. Thus, convergent and discriminant validity of the measures of latent constructs were established. Table 2 displays the correlations of the latent constructs.

TABLE 2
Correlations of the Latent Constructs

Construct	Operations	Communication	Productivity of Work	Decision-making	Strategy
Operations	1.000				
Communication	0.758	1.000			
	(0.037)				
	20.236				
Productivity of Work	0.817	0.699	1.000		
	(0.034)	(0.046)			
	24.128	15.256			
Decision-making	0.242	0.272	0.150	1.000	
	(0.070)	(0.070)	(0.074)		
	3.470	3.897	2.036		
Strategy	0.318	0.279	0.287	0.506	1.000
	(0.068)	(0.070)	(0.070)	(0.056)	
	4.704	3.980	4.082	8.982	

Results of the Retest of the Hypotheses

We retested the original research hypotheses by building a structural model that captures the relationships displayed in Figure 1. The results are presented in Table 3.

TABLE 3
Estimated Parameters of the Structural Model of Good and Stone (1995)

Model Parameter	Path Estimate	t-value
Organization Communication to Productivity of Work (H1)	0.71	9.10
Organization Communication to Marketing Operations (H2)	0.35	4.24
Marketing Operations to Successful Information Systems Improving Marketing Strategies (H3)	0.22	3.06
Productivity of Work to Successful Information Systems Improving Decisions (H4)	0.19	2.55
Productivity of Work to Marketing Operations (H5)	0.58	6.36
Decisions to Successful Information Systems Improving Marketing Strategies (H6)	0.46	5.36

GFI = 0.89, AGFI = 0.85, CFI = 0.94, IFI = 0.94, NFI = 0.90; NNFI = 0.93, SRMR = 0.07, RMSEA = 0.07, χ^2 = 238.70 with 98 degrees of freedom (p = 0.00).

As Table 3 indicates, the overall fit of the structural model was also reasonably good. Although the χ^2 was significant (238.70 for 98 degrees of freedom, p=0.00), the GFI was 0.89 and the AGFI was 0.85. The remaining fit indices were greater than 0.90 and the RMSEA was 0.07. However, the p-value for test of close fit (RMSEA<0.05) was less than 0.50. The largest standardized residual was 6.23, and the critical N (CN) was less than 200.

We tested the research hypotheses (H_1-H_6) by examining the t-values of the path estimates of the structural model. As Table 3 displays, the t-values of the effects of IT-assisted communication on productivity of work (H_1) and on operations (H_2) were 9.10 and 4.24, respectively. Thus, H_1 and H_2 were supported. The t-value of the effect of IT-assisted operations on strategy (H_3) was 3.06 and provides support for H_3. Although Good and Stone (11) did not find support for this path, our results suggest that operations facilitated by IT have positive impacts on strategy.

Our results also provided support for the remaining research hypotheses. As Table 3 presents, the t-values of the effect of IT-assisted productivity of work on decision-making (H_4) and on marketing operations (H_5) were 2.55 and 6.36, respectively. Thus, H_4 and H_5 were supported. The t-value of the effect of IT-assisted decision-making on strategies (H_6) was 5.36 and provides support for H_6. Consequently, we find support for Good and Stone's (11) model of the role of IT in marketing

organizations (Figure 1).

CONCLUSIONS

Based on our results, we conclude that marketing managers have integrated the operational advantages of IT to improve their marketing strategies. In addition to the evidence for indirect support for IT-enabled strategies noted by Good and Stone (11), we also find direct support for IT-enabled operations leading to the strategic use of IT. Our findings support the contention that the integration of IT into the marketing organization leads to improvements in marketing strategies based on enhancements in operational capabilities over time. Therefore, the adoption of IT and its utilization is of strategic importance in achieving sustainable competitive advantages by marketing organizations.

Overall, the results of our study underscore the importance of IT in marketing organizations. Moreover, they are in line with Agarwal and Karahanna's contention that the maximum value of investments in IT will be realized "only when information systems are utilized by their intended users in a manner that contributes to the strategic and operational goals of the firm" (1). We suggest that marketing managers not expect "instant gratification" from IT-assisted strategies. They should, however, plan for a two-staged approach to implementing the strategic use of IT over time. Naturally, the second shoe drops after the first.

However, our study is limited by the cross-sectional design of the survey. Such deigns restrict the ability to rule out alternative causal inferences. Since the integration of operational capabilities with strategic improvements was expected to happen over time, a longitudinal design would have allowed inferences about causal ordering. Still, it seems useful to compare our research back to Good and Stone's original study and to make inferences based on that comparison across time. Even so, the results should be interpreted with caution.

DIRECTIONS FOR FUTURE RESEARCH

Future research should further validate the claim that marketing managers are taking advantage of IT as an enabler of strategy. Even though our data suggests that marketing managers are now integrating the operational advantages of using IT with marketing strategies, the results of a study based on a longitudinal design would be particularly interesting. As recommended by Hunter (14), additional studies should be completed to substantiate this view.

In addition to confirming the strategic integration of IT in marketing organizations found in our study, future inquiries should also explore alternative explanations for the lack of support in the original research. Although our results provide evidence for the second of a two-stage process of IT adoption, factors other than IT-supported operations may drive this process. Even though it seemed intuitive that the second shoe would drop, future research should carefully consider why.

REFERENCES

1. Agarwal, R. and E. Karahanna. "Time Flies When You're Having Fun: Cognitive Absorption and Beliefs about Information Technology Usage," **MIS Quarterly,** 24:4, 2000, pp. 665-694.
2. Anderson J.C. and D.W. Gerbing. "Structural Equation Modeling in Practice: A Review and Recommended Two-step Approach," **Psychological Bulletin,** 103:3, 1988, pp. 411-423.
3. Armstrong, J.S. and T.S. Overton. "Estimating Nonresponse Bias in Mail Surveys," **Journal of Marketing Research,** August 14, 1977, pp. 396-402.
4. Bassellier, G., B.H. Reich, and I. Benbasat. "Information Technology Competence of Business Managers: A Definition and Research Model," **Journal of Management Information Systems,** 17:4, 2001, pp. 159-182.
5. Belrado, S., P. Duchessi, and J.R. Coleman. "A Strategic Decision Support System at Orell Fussli," **Journal of Management Information Systems,** 10:4, 1994, pp. 135-157.
6. Berthon P., L.F. Pitt, and M.T. Ewing. "Corollaries of the Collective: The Influence of Organizational Culture and Memory Development on Perceived Decision-making Context," **Journal of the Academy of Marketing Science,** 29:2, 2001, pp 135-150.
7. Blois, K.J. "IT and Marketing Strategies in Service Firms," **Service Industries Journal,** 7:1, 1987, pp. 14-23.
8. Covin, J.G., D.P. Slevin, and M.B. Heeley. "Strategic Decision Making in an Intuitive vs. Technocratic Mode: Structural and Environmental Considerations," **Journal of Business Research,** 52:1, 2001, pp. 51-67.
9. Cushman, D.P. "Stimulating and Integrating the Development of Organizational Communication: High-Speed Management Theory," **Management Communication Quarterly,** 13:3, 2000, pp. 486-501.
10. Degraeve, Z. and F. Roodhooft. "Effectively Selecting Suppliers Using Total Cost of Ownership," **Journal of Supply Chain Management,** Winter 1999, pp. 5-10.
11. Good, D.J. and R.W. Stone. "Computer Technology and the Marketing Organization An Empirical Investigation," **Journal of Business Research,** 34, 1995, pp. 197-209.
12. Heintze, T. and S. Bretschneider. "Information Technology and Restructuring in Public Organizations: Does Adoption of Information Technology Affect Organizational Structures, Communications, and Decision Making?" **Journal of Public Administration Research and Theory,** 10, 2000, pp. 801-830.
13. Hu, L.T. and P.M. Bentler. "Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria Versus New Alternatives," **Structural Equation Modeling,** 6:1, 1999, pp. 1-55.
14. Hunter, J.E. "The Desperate Need for Replications," **Journal of Consumer Research,** 28, 2001, pp. 149-158.
15. Karake, Z. **Information Technology and Management Control.** Westport, CT: Praeger, 1992.
16. Karimi, J., T.M. Somers, and Y.P. Gupta. "Impact of Information Technology Management Practices on Customer Service," **Journal of Management Information Systems,** 17:4, 2001, pp. 125-158.
17. Kathuria, R., M. Anandarajan and M. Igbaria. "Linking IT Applications with Manufacturing Strategy: An Intelligent Decision Support System Approach," **Decision Sciences,** 30:4, 1999, pp. 959-991.
18. Khandwalla, P.N. **The Design of Organizations.** New York: Harcourt Brace, 1977.
19. Klosterman, R.E. and Y. Xie. "Retail Impact Analysis with Loosely Coupled GIS and a Spreadsheet," **International Planning Studies** 2:2, 1997, pp. 175-192.
20. Menon, A., S.G. Bharadwaj, P.T. Adidam, and S.W. Edison. "Antecedents and Consequences of Marketing Strategy Making: A Model and a Test," **Journal of Marketing,** 63, April 1999, pp. 18-40.
21. Menon, A., S.G. Bharadwaj, and R. Howell. "The Quality and Effectiveness of Marketing Strategy: Effects of Functional and Dysfunctional Conflict in Intraorganizational Relationships," **Journal of the**

Academy of Marketing Science, 24:4, 1996, pp. 299-313.
22. Mintzberg, H. "Learning 1, Planning 0: Reply to Igor Ansoff," **Strategic Management Journal,** 12:6, 199, pp. 463-466.
23. Moorman, C. and A.S. Miner. "The Convergence of Planning and Execution: Improvisation in New Product Development," **Journal of Marketing,** 62, July 1998, pp. 1-20.
24. Ramamurthy, K. and G. Premkumar. "Determinants and Outcomes of Electronic Data Interchange Diffusion," **IEEE Transactions on Engineering Management,** 42:4, 1995, pp. 332-351.
25. Rolfe, A.J. "Profitability Reporting Techniques Bridge Information Gap," **Journal of Business Strategy,** 13:1, 1992, pp. 32-36.
26. Sivadas, E. and F.R. Dwyer. "An Examination of Organizational Factors Influencing New Product Success in Internal and Alliance-based Processes," **Journal of Marketing,** 64, January 2000, pp. 31-49.
27. Snyder, R.A. and J.H. Morris. "Organizational Communication and Performance," **Journal of Applied Psychology,** 69, 1984, pp. 461-465.
28. Tallon, P.P., K.L. Kraemer, and V. Gurbaxani. "Executives' Perceptions of the Business Value of Information Technology: A Process-oriented Approach," **Journal of Management Information Systems,** 16:4, 2000, pp. 145-173.