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Pamila Dembla  
*Kennesaw State University*

Prashant Palvia  
*University of North Carolina at Greensboro*

Stef Nicovich  
*Lynchburg College*

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# Organizational Adoption of Web-Enabled Services For Information Dissemination: A Cross National Comparison of US and Indian SME's

**Pamila Dembla**

Kennesaw State University  
pdembla@kennesaw.edu

**Prashant Palvia**

University of North Carolina at Greensboro  
pcpalvia@uncg.edu

**Stef Nicovich**

Lynchburg College  
nicovich@lynchburg.edu

## ABSTRACT

Although communication, collaboration, and transaction processing are some of the important business functions facilitated by the web, timely dissemination of information is critical for ultimate customer satisfaction and potential profitability. The purpose of this study is to determine the effect that contextual factors such as IS maturity, organizational attributes, and environmental characteristics have on perceived usefulness and adoption of web-enabled services for information dissemination in US and Indian small and medium enterprises (SME's). The key focus of this article is "organizational adoption" as opposed to individual acceptance for which there have been numerous studies. A research model and eight hypotheses were developed and data were collected from 211 and 160 senior managers in US and Indian small businesses respectively. The model suggested adequate fit for both countries. The results indicate some similarities and differences between US and Indian SME's.

## Keywords

Information dissemination, organizational adoption, SME's, technology acceptance, web-enabled services, structural equation modeling, cross-cultural comparison.

## INTRODUCTION

Small and Medium enterprises (SME's) play a crucial role in the economic vitality of many countries. The capacity of a country's economy to adapt and change has been linked to the flexibility and responsiveness of SME's (Ortiz de Guinea, Kelley, Hunter, 2005, Baranamo, Bommer, Jalajas, 2005). Furthermore, governments and economists view SME's as the mechanism by which national growth is created (Pollard and Hayne, 1998). In the US, SME's account for nearly one-half of the gross national product. They create two-thirds of new jobs and more than one-half of all technological innovations (US Small Business Administration, 2001). Similarly, SME's in India constitute one of the most important segments of its industrial economy, accounting for approximately 95 percent of the total industrial units and contributing a substantial amount to India's GDP.

Research on SME's suggested that they have some unique characteristics. SME's usually have external linkages to other suppliers and customers and while they contribute to the growth of the economy they are not often profitable (Baranamo *et al*, 2005) Lack of financial resources and skilled technical people are often the main hindrances in adoption of innovations by SME's. In addition, SME's are usually flexible organizations that respond to fast changing environments. A key resource for attaining information for SME's is the Internet. Organizations use the web to enhance their competitive position and increase their effectiveness of operations. Effective use of the web may lead to greater market access in terms of actual and potential customers served (Schneider and Perry, 2001). The non-propriety nature of the Web and its rapid growth levels the playing field for all participants in any single industry. The Internet allows larger firms to enter market niches of small businesses at little or no additional cost. On the other hand, the Internet allows small businesses to enter the domain of larger businesses

and compete with them as well. Moreover, use of the same information technologies enables small businesses to achieve the same efficiencies as the large businesses.

This study treats web-enabled information dissemination as an innovation and examines the factors that facilitate its adoption. While much research has been done on individual adoption, this study focuses on the *organizational* adoption of web-enabled services for information dissemination, thus making a unique contribution. Compared to innovation decision process by individuals the innovation process in organizations is more complex. Implementation usually involves a number of individuals, perhaps including people for and against the new idea, each of who play an important role in the decision-making process (Rogers, 2003).

This study is particularly important as it examines the adoption of web-enabled services for information dissemination in 2 distinct countries—The United States and India. These two countries were chosen to study the macro level variations that may affect an organization's decision process. As such, the two countries exhibit many differences First, web adoption has reached its critical mass in the US whereas in India, medium enterprises have crossed the initial process of IT and technology adoption while small businesses are still in the first wave, primarily focusing on basic computing needs (AMI Partners, 2005). While the US internet user population is estimated at 127 million users, the Internet user population for India is about 7 million (Cyberatlas, 2003). By the close of 2005, nonetheless, India was expected to be second only to China in terms of total internet users in the Asia Pacific region, primarily due to its billion plus population In addition, although developing countries face many of the same problems that affect organizations in developed countries, they also have distinctive difficulties. In developing countries, as compared with developed countries, government often exerts more influence over industries and organizations. Innovation is limited by scarcity of managerial and technical personnel and capital, inadequate physical and information infrastructure, social and cultural diversity, and political barriers that modulate and distort market and competitive forces. The rules of the competitive game are often unclear and unstable, reflecting the underlying instability of the political and economic environments and the information imperfection of the markets (Singh, 2000). Our findings will be of special interest to senior executives and technology managers in small and medium global business.

## LITERATURE REVIEW AND RESEARCH MODEL

Much research has investigated the effects of structural and organizational factors on innovation adoption. Factors considered within the context of organizational adoption of web-enabled information dissemination include: information systems (IS) maturity, organizational factors, external environmental factors, and perceived usefulness. We now describe the research model in full detail, as shown in Figure 1. Each of the variables of the model is described and hypotheses developed.

### Organizational Adoption of Web-Enabled Services for Information Dissemination

This is the dependent variable in the model. Rogers (2003) suggested that adoption of an innovation involves the decision to commit resources to innovation. It can also be defined as a decision to make full use of the innovation as the best course of action available (Rogers, 2003). Dissemination of information via the web can be very attractive to small businesses as this allows direct communication with employees, customers and suppliers, and helps increase speed of operations and save costs substantially (Turban, 2002).

### Perceived Usefulness

The concern again is with usefulness of the innovation to the organization, and not an individual per se. Perceived usefulness (PU) from an individual's perspective is defined as "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis, 1989). Within an organizational context, we define perceived usefulness as "the degree to which an individual in the organization believes that using a particular system enhances the performance of the organization".

Effective use of web-enabled information dissemination can lead to improved efficiencies in operations with savings in cost and time. Furthermore, use of the web for routine activities such as information dissemination can free up the limited employees in SME's to enhance interpersonal relationships within and outside the organizations. Thus, employees who envisage improved performance will adopt the technology due to anticipated raises, promotions, bonuses, and other rewards (Pfeffer, 1982), leading to organizational adoption over time. Thus, we make the hypothesis:

H1: Perceived usefulness of using the web for information dissemination is *positively related* to the degree of adoption in the organization.

## IS Maturity

Factors related to IS maturity include the extent of infusion and diffusion of technology by organizations (Sullivan, 1985), the necessity of a formalized planning process that includes strategic, tactical and operational planning to ensure consistency of IS and organizational goals (Benbasat, Dexter, Mantha, 1980), and top management's role in taking responsibility for fostering information systems with the potential to provide an impact (Benjamin, Rockart, Scott, Wymann, 1984). Case studies of motivators and inhibitors of small businesses suggest that lack of IS knowledge is among the key inhibitors of the extent of development of IS applications in small businesses (Cragg and King, 1993). Greater IS sophistication or maturity may provide the organization with the knowledge base to integrate new technologies within the organization. At the same time, these organizations are more likely to perceive the usefulness of web-enabled services for information dissemination and adopt them (Shim and Min, 2002). Consequently, we frame the following two hypotheses:

H2: IS maturity is *positively related* to the degree of adoption of the web for information dissemination.

H3: IS maturity is *positively related* to perceived usefulness of the web for information dissemination.

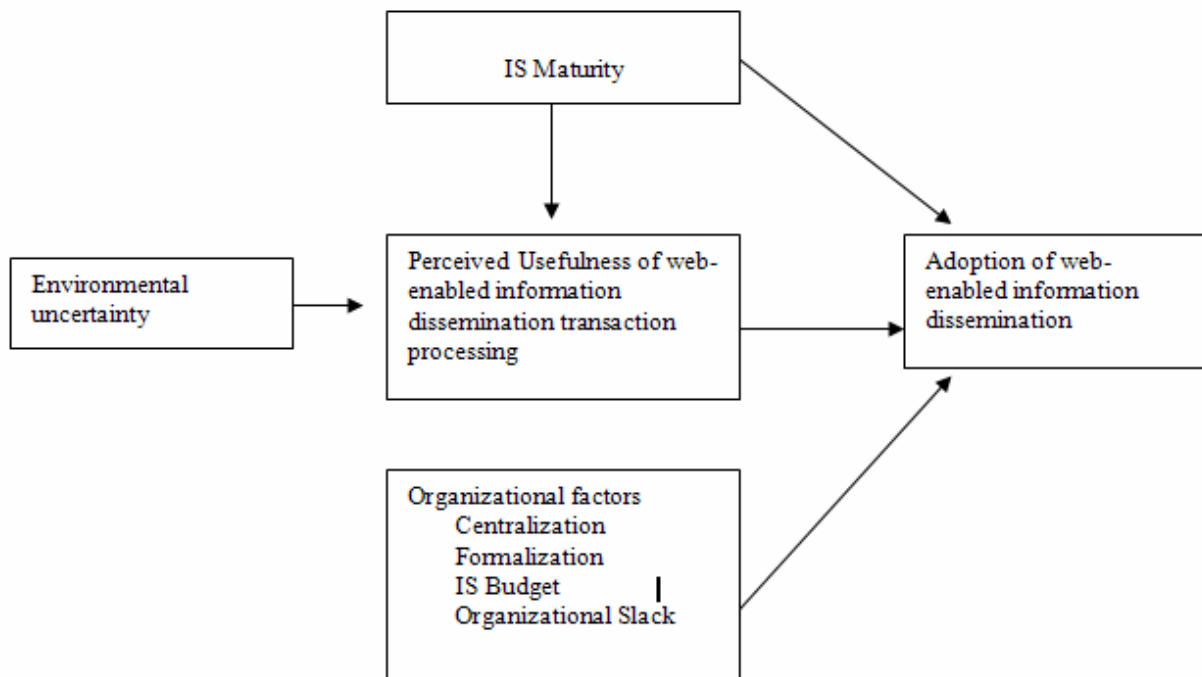


Figure 1. Research Model

## Environmental Uncertainty

Innovation literature has consistently recognized that environmental uncertainty is the consequence of a dynamic and hostile/competitive environment and heterogeneity (Sia, Teo, Tan, Bernard, Wei, 2004). Environmental pressures on SME's to use web-enabled technologies come from various sources. Larger organizations usually exercise higher bargaining power to exert control over SME's namely buyers, suppliers, and customers (Porter, 1980). Thus, when larger firms use the web they compel smaller businesses to adopt it as well. In addition, competitor's adoption and use of a new technology may have a potential for enhancing their competitive positions encouraging other firms to adopt or remain at a competitive disadvantage (Porter, 2001). Thus, we propose the hypothesis:

H4: Environmental uncertainty is *positively related* to the perceived usefulness of web-enabled information dissemination.

## Organizational Factors

The literature helped us to identify the following organizational factors as relevant: centralization, formalization, IS budget, and organizational slack. Centralization, referring to the concentration of decision-making activity, increases the predictability of outcomes of decisions (Hage and Aiken, 1969). Nakamura (2003) suggest that centralization can prevent

wasteful duplication of effort. Centralization can encourage employees to be more cooperative about sharing discoveries and techniques, further reducing risk and duplication of effort. In addition, centralization improves effectiveness because it gives the decision maker the ability to plan, coordinate, and control activities (Ruekert and Walker, 1985). In the case of SME's with higher workloads and absence of spare capacity, centralized decision making can free the limited employees to focus on important operational activities.

Formalization represents the use of rules in an organization (Hage and Aiken, 1969). As power becomes more centralized it becomes imperative to develop clear-cut rules for implementation. Formalization is thought to lead to greater efficiency because the predefined rules and procedures serve to routinize repetitive activities and transactions (Ruekert and Walker, 1985, Rapert and Wren, 1998) and thus help adoption of innovations. Organizational slack refers to the extra resources available in excess of what is required for the normal operation of an organization. Proponents of slack argue that it plays a crucial role in allowing organizations to innovate by permitting them to experiment with new strategies and innovative projects that might not be approved in a more resource controlled environment (Nohria and Gulati, 1996). Organizations with greater slack resources can afford sophisticated information search activities, such as an integrated computer information system to enhance search processes. Lack of resources and expertise are assumed to be a major reason that hinders the adoption of innovations by small businesses (Thong, 1999).

Finally, organizations usually manage competitive pressures from the environment by investing in IS. A higher IS budget allows the organization adopt new innovations and reduce IS knowledge barriers (Cragg and King, 1999). In recent years, the availability of low cost, increased powers and capacity of computers, have made it possible for small businesses to enhance their IT usage and take advantage of the strategic possibilities of IT (Pollard and Hayne, 1998). Thus, we make the following additional hypotheses:

- H5: Centralization is *positively related* to the degree of adoption of the web for information dissemination.  
 H6: Formalization is *positively related* to the degree of adoption of the web for information dissemination.  
 H7: Organizational slack is *positively related* to the degree of adoption of the web for information dissemination.  
 H8: IS budget is *positively related* to the degree of adoption of the web for information dissemination.

## RESEARCH METHODOLOGY

SME's from two countries – US and India were the unit of analysis. The survey methodology was used. There are eight variables in the research model. A questionnaire was prepared based on the concepts and constructs discussed in previous sections. In as much as possible, items from existing instruments were used for the constructs. The studies from which the scales were adopted are shown in Table 1. Operationalization of the constructs is shown in Appendix A. The questionnaire was first pretested to refine the wording of the instrument, thereby reinforcing face validity (Churchill, 1979). Pretesting was performed by administering the questionnaire to researchers and professionals working in both US and Indian SME's.

Questionnaires were sent by mail with a return envelope to randomly selected organizations in both countries. The population for US SME's was from an Internet-based federal government database while the population for Indian organizations was purchased from an organization specifically dealing with international corporate databases. Each of the databases provided a mailing list with the name and address of a contact person. A pilot test was carried out to check the reliability of the instrument before the field survey in the US. One thousand questionnaires were sent for the pilot test.

Construct	Abbreviation	Cronbach's Alpha
IS maturity	IS	0.79
Environmental Uncertainty	EU	0.74
Centralization	CENT	0.78
Formalization	FORM	0.71
Perceived Usefulness	PU	0.93
Adoption	AD	0.83

**Table 1: Existing Scales and their Reliability**

### Pilot Study

For the pilot study, in approximately two weeks, 113 usable responses were received. The six latent constructs containing 31 items were tested for reliability. Individual construct reliability was assessed. To improve the instrument, items were eliminated if their corrected item-total correlations were below 0.5 or if their correlation with the two-item criterion scale was below 0.4 (Doll and Torkzadeh, 1988). The results can be seen in Table 2. 8 items were deleted based on reliability assessment, resulting in 23 items for the six constructs.

Construct	Abbreviation	Number of Items Before Pilot Test	Cronbach's Alpha Before Pilot Test	Number of Items After Pilot Test	Cronbach's Alpha After the Pilot Test
IS Maturity	IS	7	0.83	6	0.85
Environmental Uncertainty	EU	9	0.58	3	0.70
Centralization	CENT	5	0.70	4	0.78
Formalization	FORM	4	0.77	4	0.77
Perceived Usefulness	PU	3	0.98	3	0.98
Adoption	AD	2	0.90	2	0.90

**Table 2. Results of Pilot Test**

### Field Study

For the field study in the US, two thousand SME's were mailed questionnaires with a return envelope. At the end of a month, a total of 215 responses were received in all including the pilot. A sample size of 150 and above is considered good for such a study (Anderson and Gerbing, 1988). The pilot data was included with the full study as there was no change in the selected questions from the pilot to the full. There was also no discernible difference in the profile of the respondents from the pilot and the full study based on the Pearson's chi-square test of homogeneity (Nahm, Vonderembse, Koufteros, 2004). The combining of the two data sets helped increase the sample size without compromising the quality of data. Of the 215 responses, 211 were usable. Similarly, data was collected from SME's in India for the field study. A total of 1500 SME's were mailed questionnaires with return envelopes. In one month a total of 160 completed questionnaires were received. To test for non-response bias effects in our sample, we sent additional mails to non-respondents asking for information about their demographic variables such as job title, and industry profile after the data collection period was closed (Nahm et al., 2004). Pearson's chi-square test of homogeneity was used to compare the first mailing group and the second mailing group. We found no statistical differences between respondents and non-respondents on each of the variables, indicating no evidence of non-response bias associated with our sample. The respondents were asked to identify their job titles within their respective organizations. The number of responses from each industry and the profile of the respondents are shown in Table 3.

Position	US sample	India sample
Top Management	176	128
Middle Management	27	31
First Line Management	8	1
<b>Total</b>	<b>211</b>	<b>160</b>

**Table 3. Number of Responses and Profile of the Respondents**

### Measurement and Structural Model Testing

The instrument was further tested for psychometric properties using the full set of data. In addition to Cronbach's alpha ( $\alpha$ ), the variance extracted, convergent and discriminant validity were calculated to measure reliability and validity of the instrument. Values greater than 0.5 are desired for variance extracted and convergent validity (Bryne, 1998). In case of discriminant validity it was proposed that the square of the correlations between the constructs should be less than the variance explained by construct (Fornell and Larcker, 1981). As observed in tables 4 and 5 all constructs show good average

variance extracted, convergent and discriminant validity for both the US and Indian sample. The instrument thus passed important criteria for measurement reliability and validity.

Constructs	AVE	Convergent Validity	IS	EU	CENT	FORM	AD	PU
IS	0.65	0.9	0.65					
EU	0.75	0.9	0.00	0.75				
CENT	0.85	0.94	0.01	0.00	0.85			
FORM	0.83	0.95	0.01	0.00	0.18	0.83		
AD	0.97	0.98	0.23	0.01	0.03	0.04	0.97	
PU	0.97	0.99	0.16	0.00	0.01	0.02	0.50	0.97

**Table 4: Measurement model – Average Variance Extracted (AVE), Convergent Validity and Discriminant Validity - US sample**

Constructs	AVE	Convergent Validity	IS	EU	CENT	FORM	AD	PU
IS	0.67	0.91	0.67					
EU	0.73	0.89	0.05	0.73				
CENT	0.84	0.93	0.09	0.00	0.84			
FORM	0.80	0.92	0.20	0.06	0.13	0.80		
AD	0.96	0.97	0.15	0.05	0.09	0.04	0.96	
PU	0.98	0.98	0.08	0.09	0.01	0.02	0.45	0.98

**Table 5: Measurement model – Average Variance Extracted (AVE), Convergent Validity and Discriminant Validity – Indian sample**

As strong theoretical foundations support the area under study, it was appropriate to evaluate the constructs and their interaction with other constructs. The research model was tested with structural equation modeling (Joreskog and Sorbom, 1993) using LISREL 8.51. Multiple measures of fit were used as suggested by Hu and Bentler (1999). The chi-square ( $\chi^2$ ) goodness-of-fit statistic assesses the degree of departure of the sample covariance matrix from the fitted covariance matrix (Hu and Bentler, 1999). We also report several fit indices (Hu and Bentler, 1999). CFI is an incremental fit index that “measures the proportionate improvement in fit by comparing a target model with a more restricted, nested baseline model” (Joreskog and Sorbom, 1993). The GFI is based on a ratio of the sum of squared discrepancies to the observed variances. The recommended value for both CFI and GFI is above 0.9 (Joreskog and Sorbom, 1993). Another index is Non-Normed Fit Index (NNFI) whose recommended value is also above 0.9. The Root Mean Square Error of Approximation (RMSEA) is an absolute fit index which assesses “how well an a priori model reproduces the sample data” and its cut-off is around 0.08 (Joreskog and Sorbom, 1993).

### Structural Model Testing Results

Given a satisfactory measurement model fit, the structural model was assessed next. The structural model specifies the direct and indirect relationships among the latent variables (Anderson and Gerbing, 1988). For both the US and Indian sample, eight structural paths were tested in the structural model. For the US sample, the model fit statistics were  $\chi^2$  (df=338, N=211) =633.7, RMSEA=0.063, NNFI=0.9, CFI=0.91 and GFI=0.83 while for the Indian sample, the model fit statistics were  $\chi^2$  (df=342, N=160) =549.03, RMSEA=0.062, NNFI=0.97, CFI=0.88 and GFI=0.80. They were all significant at  $p < 0.01$ . Overall, the statistics demonstrated a moderate fit to both the models (Byrne, 1998). Figure 2 and 3 show the estimated standardized path coefficients and their t values for the US and Indian sample respectively. The significant paths and estimated standardized path coefficients are shown in bold. A summary of the estimated standardized path coefficients and hypotheses’ testing is presented in Table 6.

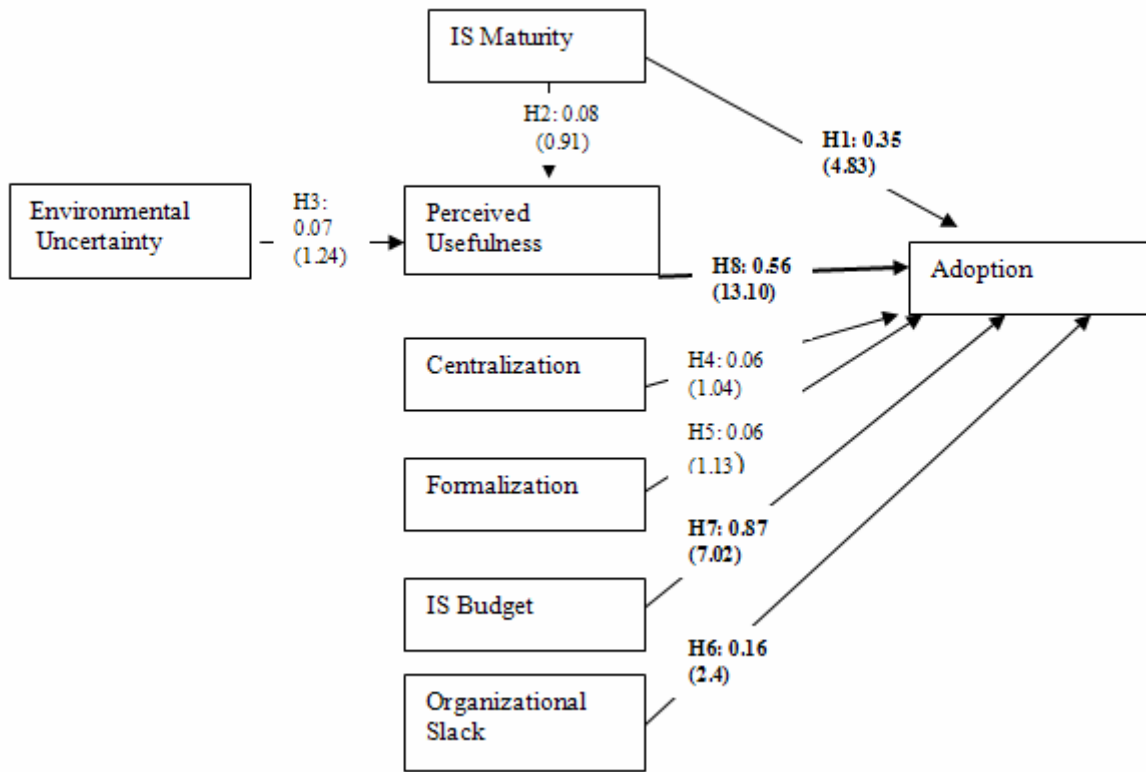


Figure 2: Standardized path coefficients for the model (t values of estimated coefficients are in parentheses) - US sample

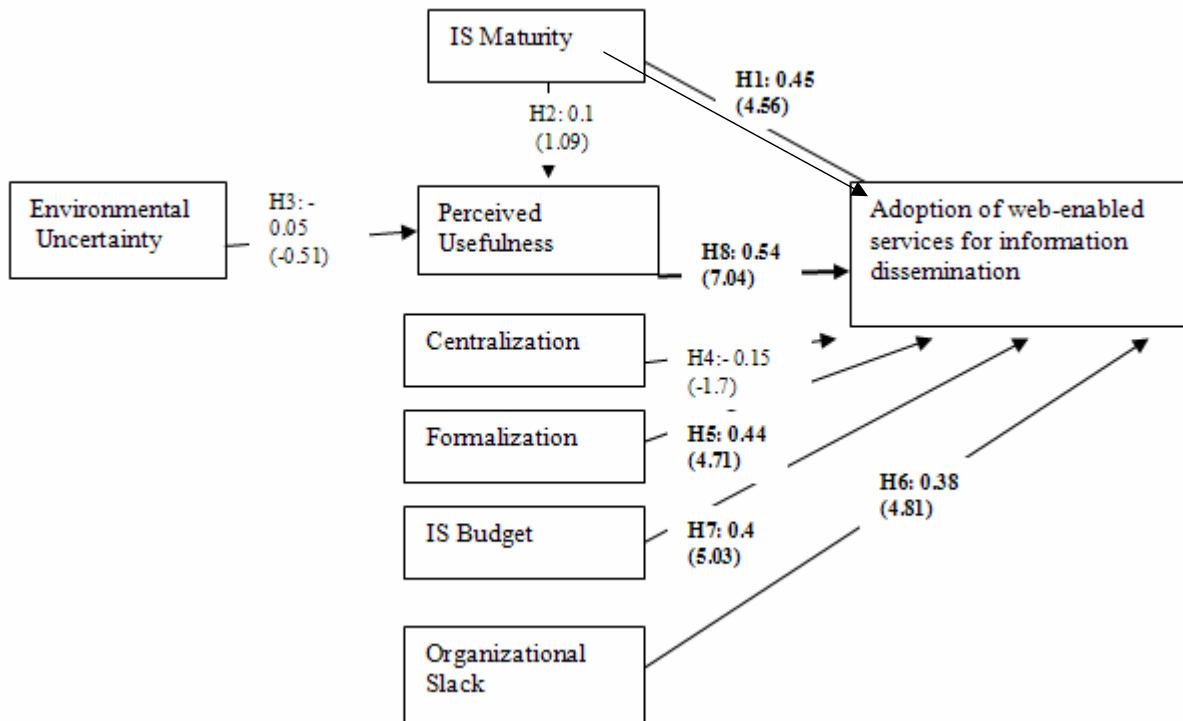


Figure 3: Standardized path coefficients for the model (t values of estimated coefficients are in parentheses).



## RESULTS AND DISCUSSION

This study examined the affects of IS maturity, organizational factors, and environmental uncertainty on perceived usefulness and adoption of web-enabled information dissemination in SME's in the US and India. Overall, the results confirm many similarities in the 2 countries while indicating unique differences. In both US and India, there is strong evidence to support that perceived usefulness is a prime motivator for the adoption of web-enabled services for information dissemination. As small businesses expand their markets beyond physical boundaries and increase their customer base, they rely increasing on the web-enabled services for increasing sales and improving customer bases. Web-enabled information dissemination allows easy information and allows greater market penetration. The significance of Perceived Usefulness in both cultures is in accordance with the findings of cross-cultural studies investigating the TAM model (Straub, 1997). Perceived usefulness has been established in the Technology Acceptance Model as an important determinant of individual adoption of technology (Davis, 1989); it is heartening to note its significance in organizational acceptance as well. IS maturity was found to strongly influence the adoption of web-enabled information dissemination in both the countries similarly. Companies that have IS maturity use IS proactively and strategically in all aspects of organization functions from order entry to after sales service (Hartman, Fok, Fok, Li, 2002). Mature IS organizations have past experience in working with new technologies; thus they have better knowledge and understanding of any potentially useful innovations. This affects both their perceptions of usefulness of the technology and its actual adoption (Hartman et al, 2002). They are also in the enabler position to diffuse the technology throughout the organization.

Hypotheses	Structural Path	US sample	Indian Sample
H1	IS Maturity (IS)-> Adoption (AD)	Supported	Supported
H2	IS Maturity (IS) -> Perceived Usefulness (PU)	Not Supported	Not Supported
H3	Environmental Uncertainty (EU) -> Perceived Usefulness (PU)	Not Supported	Not Supported
H4	Centralization (CENT)-> Adoption (AD)	Not Supported	Not Supported
H5	Formalization (FORM)-> Adoption (AD)	Not Supported	Supported
H6	Organizational Slack (SLACK)-> Adoption (AD)	Supported	Supported
H7	IS Budget (ISBUDGET) ->Adoption (AD)	Supported	Supported
H8	Perceived Usefulness (PU)-> Adoption (AD)	Supported	Supported

**Table 6: Results of parameter estimates**

Note:  $p < 0.01$ .

Based on Hofstede's cultural studies (2001), two cultural dimensions, uncertainty avoidance and individualism/collectivism provide insights into the similarities and differences between the U.S. and Indian results.

According to Hofstede (2001), individualism refers to "societies in which the interests of the individual prevail over the interests of the group". Countries with high individualism can be assumed to comfortable in a decentralized decision making environment. As US ranks 1 (extremely high individualism) while India ranks 12 (average individualism) a non significant relationship for centralization in both countries was expected. In decentralized organizations, those closest to customers, suppliers and other stakeholders may offer the most accurate view of what is needed technologically to remain competitive (Nakamura, 2002). In addition, web-enabled information dissemination may be vital in a decentralized organization in order to share information effectively and for the organization to evolve as an entity (Warger, 2002).

Similarly, uncertainty avoidance refers to "the extent to which the members of a culture feel threatened by uncertain or unknown situations" (Hofstede, 2001). In cultures with high uncertainty avoidance, formalization is necessary. Both US and India have low uncertainty avoidance (US and India 4 and 5 respectively) and are comfortable and tolerant in uncertainty. The non significant relationship between formalization and adoption in the US sample was expected. When organizations require multi-unit adoption of technologies or the control of expertise depends on technical experts, a formal administrative process may not be useful to promote adoption (Berger, 2000). A significant relationship in the Indian context maybe unique to the sample in context.

Organizational slack was positively related to adoption of web-enabled services in both the samples. Slack acts as a buffer that helps maintain stability when facing adverse business situations. Consequently, slack allows managers to take risks because it allows the organization to absorb the costs associated with failure and to explore new ideas in advance of actual need (Nohria and Gulati, 1996). IS budget had an important and noteworthy relationship with adoption in both environments. It is widely accepted by CEOs, CIOs and CFOs that investing in IS is critical to being competitive in practically any industrial or consumer market anywhere (David, Schuff, St. Louis, 2002). The CIO insight study (Perkowski, 2003) suggests that organizations increase their IS budgets for e-business investments and the reasons are to increase revenues, reduce costs and increase productivity. Non-financial reasons for investing are increased customer satisfaction, customer knowledge, error reduction and flexibility. Interestingly, environmental uncertainty was not significantly related to usefulness of the technology. An increase in the number of users confers value to the technology and creates a bandwagon effect, thereby encouraging others to adopt a new innovation (Kauffman et al, 2000). It may be argued that web-enabled services for information dissemination are more a competitive necessity than an advantage in turbulent markets.

## CONCLUSION

This study has important implications for small businesses and organizations interacting with other organizations in a global environment. Although US and India are different in terms of IT infrastructure and are at different stages in their internet growth cycles, there are many similarities in the organizational decision making process. The importance of continuous investment in technology and keeping abreast with new technology been highlighted in both the countries. It is worth mentioning an important limitation of this study. The characteristics of the sample chosen (all SME's) lend a degree of homogeneity to the sample and at the same time render it difficult to draw generalizable conclusions for all businesses. Future research may attempt to validate these findings to larger businesses, multiple industries and additional cultural contexts. A distinctiveness of the study is the organizational adoption of technology. We believe it is a fertile area for continued research.

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**APPENDIX A: Operationalization of the Constructs**

Note: Items with an \*\*\*\* next to them were deleted in the final survey

Constructs	Items
<b>IS Maturity (Grover and Goslar 1993)</b>	1. How many functions are dependent on Information Technology in your organization?  **2. To what extent are mainframe terminals, computers, word processors, process control devices, micros, etc., installed throughout your organization?  3. How informed are information system managers about your organization's business plans? 4. How informed are your firm's top management about information technology?  5. How formalized is the information system planning in your organization? 6. To what extent does information system planning take your organization's business plans into consideration?  7. How involved is top management in information systems planning?
<b>Environmental Uncertainty (Miller and Friesen 1982)</b>	**1. How predictable are the actions of competitors?  2. How different are your organization's products/services in reference to customer buying habits? 3. How different are your organization's products/services in reference to nature of competition in your industry? 4. How different are your organization's products/ services in reference to market dynamism and uncertainty in your industry? **5. How severe a threat does price competition in your industry pose to your organization?  **6. How severe a threat does product quality/novelty competition in your industry pose to your organization?  **7. How predictable are customer demands and tastes?  **8. At what rate does technology change in your industry?  **9. The organization must frequently change its marketing practices to keep pace with markets and competitors.
<b>Centralization (Caruana, et al. 1998)</b>	**1. Any major decision that is made has to have your organization's approval.  2. In your experience with your organization, even quite small matters have to be referred to someone higher up for a final answer.  3. Your experience with your organization has included a lot of rules and procedures stating how various aspects of your job are to be done.  4. You have to ask senior management before you do almost anything in your business.  5. You can take very little action on your own until the senior management approves it.

**Formalization**  
(Caruana, et al.  
1998)

1. Whatever situation arises, there are procedures to follow in dealing with the situation.
2. When rules and procedures exist here, they are usually in written form.
3. The employees in your organization are constantly checked for rule violation
4. There are strong penalties for violating procedures.

**Adoption (Moon  
and Kim 2001)**

1. What is the current usage of web services for information dissemination in your organization?
2. How frequently do you use the web for information dissemination in your organization?

**Perceived  
Usefulness (Moon  
and Kim 2001)**

1. Using the web for information dissemination enhances your organization's effectiveness.
2. Using the web for information dissemination increases your organization's productivity.
3. Using the web for information dissemination improves your organization's performance.

**IS Budget**  
(CIO.com Oct-05)

1. How much is the IS budget of your organization?

**Organizational  
Slack**

1. What is the average profit made by your organization in the last five years?