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School Level Information System (IS) Discontinuance Intention: A Case Study on Information System (IS) Discontinuance of Surigao State College of Technology SSCT

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Abstract

Educational institutions implement school information system (IS) solutions for efficient academic processes and improve the student experience, and thus tend to upgrade to new school IS, ceasing the use of old school IS. Extant studies of information system discontinuance are in organizational in general. This study is solely a school organization setting, specifically a thorough understanding of contributing factors that facilitate the intention of school information system (IS) discontinuance. Organizational level IS discontinuance intention OLIDI model was used as a lens and anchored by grounded theory. Semi-Structured interviews were used to collect data from school administrators and users of information system (IS) of Surigao State College of Technology. A qualitative statistics approach and coding of words are used to analyze the intention of IS discontinuance and provide model for school setting IS discontinuance. The findings show that system shortcomings, organizational initiative, environmental change, system investment, and institutional pressures were the critical determinants of increased intentions to replace the existing school information system (IS). The study findings are useful to school administrators to identify long term flexibility required for policies to overcome the capability of shortcomings that emerge over the system life span and underline risk associated with continued use of unsupported systems.

Keywords

Organizational Level Information System Discontinuance Intention OLIDI, Information System (IS), Information System (IS) Discontinuance

1. Introduction

Teaching, learning, and administration in schools are now incorporated with the school information system (IS) to boost school performance and effectiveness [1]. Maximizing time in decision making from complex problems in school such as staff and resource allocation, efficient processes, and monitoring operation was addressed by the used of school information system (IS) [2]. School management information system (IS) was now vital to school operation as a whole [3]. But even with the advent of this technology, the information system (IS) has its limitation where it suffers deterioration as the schools grow overtime [4].

School administrator's salience of inadequate attention to the discontinuance of obsolete information system (IS) because of the risk to the whole school operation will have an impact on the system complexity, system change, and resources [5]. Some research that says the intention of discontinuance of information systems (IS) was personal views such as dissatisfaction of the user [6], the shift of one's interest [6], status quo [7] and ease of usefulness [8]. This paper explores the information system (IS) discontinuance of Surigao State College of Technology in some depth with a view toward improving the understanding of what drives an information system (IS) toward the end of its life.

The result of the study shows that the discontinuance of the old information system of Surigao State College of Technology was associated with the system shortcomings, organizational initiative, environmental change, system investment, and institutional pressures. This factor of school information system (IS) discontinuance can help school administrator overcome capability of shortcomings that emerge over the information system (IS) life span and underline risk associated with continued use of unsupported systems.

2. Theoretical Framework

To obtain the objective of the study, an initial theoretical framing was conducted based on the method of [9] as shown in **Figure 1** where this resulting framework of general organizational level IS discontinuance intention and is rooted at the organizational level of analysis by [10].

2.1. Change Force

A priori framework has given considerations to technological, organizational, and environmental sources of change as depicted in **Figure 1**.

2.1.1. Organizational Initiative

System performance shortcomings is a technological issue that defined as the extent to which system consistently and effectively accomplishes the task that it is expected to accomplish and therefore incorporates elements such as the functionality, responsiveness, and reliability of the system [11].

2.1.2. Environmental Change

The organizational initiative is defined as an internal organizational effort directed

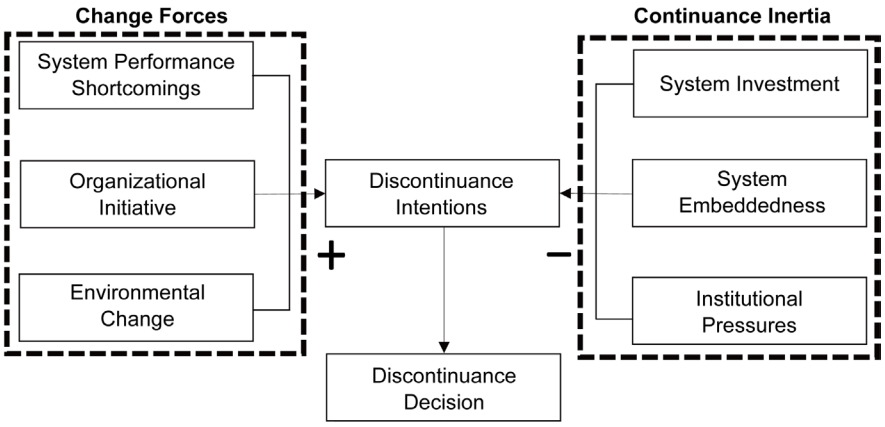

Figure 1. Theoretical framework.

toward altering where and how an organization operates, organizational initiative, asserts a teleological perspective that sees goal-directed behavior and strategic choices as fundamental drivers of organizational change. Pressure on change in an organization's information systems include changing strategic plans, the replacement of key executives, the pursuit of a new product or market opportunities, the construction of new facilities, and change in organizational structure [12].

2.1.3. System Performance Shortcoming

Environmental change can be defined as the change in the physical or social factors that lie outside of the boundaries of an organization which includes revised government regulations and the emergence of new and distinctive competitive threats [13].

2.2. Continuance Inertia

Analogous to our efforts to adequately account for technological, organizational, and environmental drivers of change, we also sought to identify technological, organizational, and environmental sources of continuance inertia. This process led to the identification of the level of financial and other investments in an existing system, the degree of embeddedness of this system within organizational activities, and institutional pressures from the organization's environment as three potentially essential contributors to continuance inertia.

2.2.1. System Investment

System investment is defined as the financial and other resources committed to the acquisition, implementation, and use of an information system. Building on the idea that commitment can escalate, the sunk cost effect is the tendency of decision-makers to continue making resource commitments to an endeavor once an initial determination of resources has been established [14]. Given that investments in an information system can be considerable, the sunk-cost effect suggests that organizations will be reluctant to discontinue their use of existing

systems since this would represent a "loss" of substantial sunk costs. The discontinuance of a system that has consumed significant organizational resources can also threaten the reputation of those who have supported these investments, thus leading them to support continued system use.

2.2.2. System Embeddedness

System embeddedness is defined as the extent to which the use of an information system is an integral part of organizational activity. An organization that has successfully implemented an information system gains competence with the system [15].

2.2.3. Institutional Pressures

Institutional theory has traditionally been concerned with organizational legitimacy and how the need for legitimacy fosters the emergence of norms and practices that prove resistant to change [16]. This emphasis on behavioral persistence serves to highlight the potential role that institutional pressures may have in fostering continuance inertia. Coercive, normative, and mimetic pressures have been identified by institutional theorists as the three key pressures that can lead organizations to conform to the practices of other organization [17]. Although pressures to comply with regulatory demands and conform to social and professional norms may also contribute to continuance inertia, it is mimetic pressures that rely on a degree of orthodoxy and taken-for-grantedness that are most suggestive of inertial tendencies [16]. Mimetic isomorphism, seen as the tendency of firms to mimic or copy the actions of those organizations that are perceived to have high levels of legitimacy, was therefore identified as the institutional pressure most likely to contribute to continuance inertia [17].

3. Research Methodology

Using a qualitative study and by the aid of an initial theoretical framework was a guide to develop a grounded understanding of school level IS discontinuance. The motives of the framework will be the guide to sensitize factors that impede or facilitate school level (IS) discontinuance. Similar to the work of [18], develop a research model of general organizational level IS discontinuance intention as shown in **Figure 2**. A priori that organizational IS discontinuance were the systems performance shortcomings, organization initiative, and environmental change, as shown in **Figure 2**.

Data are needed to make a model specific to school level IS discontinuance intention. Data are collected via semi-structured interviews with school administrators and users of school information system (IS) (*i.e.* registrar's front liners, cashiers, and accounting clerk) who were users and familiar with the school information system (IS). A second interview was conducted to test the reliability of the data. One on one meeting and group interview were used from their experience on using the old information system (IS) comparing to the new information system (IS) as to usability, user-friendliness, and promptness. The data are

group into two themes, such as Facilitate Discontinuance and Impede discontinuance. Each word is assigned to each item. Assigned color coding of words to match the answers with system performance shortcomings, organization initiative, environmental change, system investment, and system embeddedness where most of the answer are vernacular and converted to English words as shown in Figure 3 which is represented different colors.

4. Results and Discussion

Analysis of interview transcripts was guided by grounded theory techniques. The data analysis process commenced with an impressionistic reading of transcripts text to develop some familiarity with recurring themes. Segregation words into two groups, the impede discontinuance and facilitate discontinuance. Using the color-coding to the same theme at the two groups, then initial color code assignments were also revised, abstracted, and consolidated during this process. Once a relatively concise set of had been established, the relationships between color codes were reviewed to ensure that they did not exhibit inconsistencies. Another interview was conducted to double-check the consistency of the result. Then finalize the color coding and finally, the result was used to model school level IS discontinuance intention as shown in Figure 4.

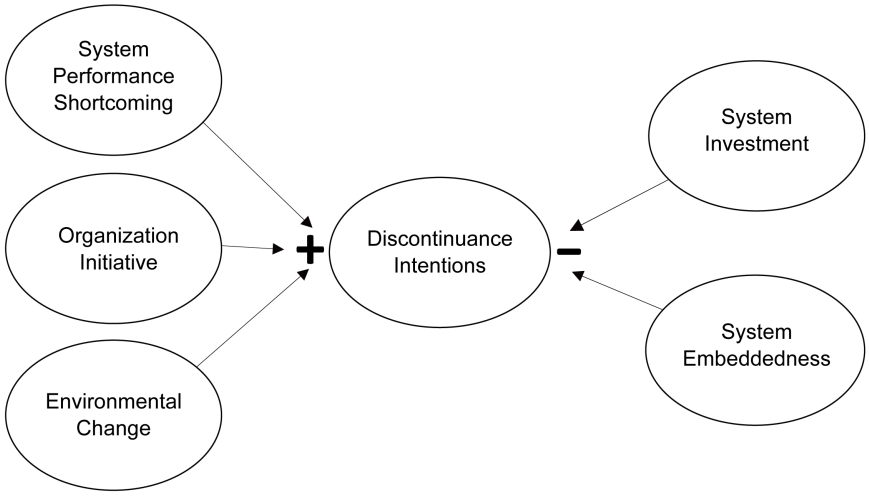

Figure 2. Organizational level of IS discontinuance intention.

Facilitate to Discontinuance/To Discontinue	Impede to Discontinuance/To Continue
Word 1	Word 4
Word 2	Word 5
Word 3	Word 6

LEGEND

System Shortcomings
Organizational Initiative
Environmental Change
System Investment
System Embeddedness
Institutional Pressures

Figure 3. Coding of words.

Facilitate to Discontinuance/To Discontinue	Impede to Discontinuance/To Continue
	Factors: dali ra ang naay system (SLOW SYSTEM) How: Sa kadugay cigeg gamit for 10 yrs, sharo dili maabtik(OLD SYSTEM)
	Factor: w/o system hasul(WITHOUT SYSTEM WORK IS TEDIUS) Magsuyat man gud kun walay system, dili makaprocess kun brownout kay dili makita ila mga balansi(WE USED MANUAL WRITING)
	Factors: dili na jud pwede kun walay system pero maka process gihapon depende sa transaction (pero kun student-lisud kay sa system namu matan-aw ang ila mga balansi)(DEPENDENT ON SYSTEM) Ledger sa mga estudyanti, balansi nila, ila mga bayronon, way back up, wayay hardcopy(MANUAL CHECKING OF LEDGER)
	Factors: if brownout paralyzed gajud majority sa opisina System dependent(IF NO POWER, TRANSACTION CEASES)
Factors: Gipul-an sa old system(FED UP OF OLD SYSTEM) How:sa kadugayon cige gamit ug system, almost 10 yrs na ang system	
Factors: Dili mag takdo ang computation kun magprint ng assessment (INCONSISTENT COMPUTATIONS) How:Wala man gud support para ma edit ang computation	
Factors: magsige error ang system, nagka disbalansi kay nagkasajup ang OR number pagprint sa mga resibo den naay nangawala na mga OR number (INCOSISTENTN OUTPUT) How:Mawala ang connection sa internet	
Factors: ang old system usahay LAG, hinay ang pagprocess, mupilit, dili macancel, ang numbering mag error (ERROR) How:Mawala ang connection sa internet	
Factors: INCOMPLETE REPORTS How:Dili maedit ang default na mga gipang encode kay dili masuyud ang server	
Factors: ERROR COMPUTATION How: Dili maedit ang default na mga gipang encode kay dili masuyud ang server	
Factors: Mas gana ang system sa laen school (DIFFERENT SYSTEM IS GOOD) How: Naka benchmark, mas plastado, established kay completo	
Factors: Excited mugamit ng bag-o (NEW SYSTEM IS GOOD) How: Daghan man gud sajup or error sa existing system kulang ang support	
Factors: Nagkadugay nagkahinay ang system(SLOW SYSTEM) How:Nagkadaghan ang population dili na makaya sa hardware kay tiguyang nasad ang server	
	Factors: makaprocess man gihapon ng manual bisan way system depend ra sa transaction (importanti na gajud ang system kay mareflect man gud sa account sa mga student ang bayranan) System dependent
	Factors: wa man mi labad sa system kay mao may gipagamit, wala man gihapon mi mahimu kay ipagamit man jud nah How:memo to used the system
	Factors: dili naman hasul ang system kay hanas naman mi mugamit How:For 10 yrs cige gamit mahanas na jud
Factors: kaso errors prone kay manual man kami pag input sa mga grade na ihatag sa mga titser na naka papel ra. (PRONE TO ERRORS) How:Manual man gud mag encode, dili ang titsers mismo ang gaencode	
Factors: incomplete reports generation, dili kontento, (INCOMPLETE FEATURES) How:dili haum sa need sa school, lahi man gud ang nagprogram	
Factors: UNMANAGEABLE (nag a gad sa developer) How:password waya mahatag, dili ma edit ang code	

Factors: SECURITY FACTORS (data base server nalimtan na ang password, dili na masulud and data base) How:password waya mahatag, dili ma edit ang code	
Factors: wala nay control sa data base (UNMANAGEABLE) How:password waya mahatag, dili ma edit ang code	
Factors: wala nay back-up (NO BACK-UP FILE) How:password waya mahatag, dili ma edit ang code	
Factors: dili user friendly ang interface(HARD TO OPERATE) How: by defaut sa programmer design, lack of testing for feedback	
Factors: ERRONEOUS ANG COMPUTATION How:incomplete pa ang system	
	Factors: ok raman ang old existing system kay maka run paman sa basic operation sa school, working paman sad ang system mura raman gihapon ug manual
Factors: IMPROVE THE EFFICIENCY AND EFFECTIVENESS OF THE PROCESS AND THE PEOPLE INVOLVED IN THE TRANSACTION How:Mas less ang human error, less time to complete a task	
Factors: nasuya kay most of the SUC has its own school system, ang skul nato wala, we need to maximize our people talents, nabuhat nila so walay rason nganong dili sad natomabuhat (PRIMITIVE SYSTEMS) How: nag benchmark sa laen	
Factors: ADJUSTMENT TO NEW SYSTEM IS ALWAYS EXCITING How: ana man jud pag naay new gadget, excited pirme na new technology	
Factors: Hinay ang system (POOR PERFOMANCE SLOW) How:Tiguyang na ang hardware, kuyang ng support	
Factors: Naay budget para sa new system (MANY BUDGET) How: Bawi naman sad sa investment kay dugay2x sad ang paggamit	
Factors: Kulang ang system, dili fit sa need sa ato school kay kuyang pa ng mga features(LACKING OF FEATURES) How:Gipa outsource raman gud ang system, so maghuyat ra kun unoy ihatag na features sa taga gawas na programmer, imaximixe rakan ang mga features na magamit sa operation sa school	

LEGEND

System Shortcomings
Organizational Initiative
Environmental Change
System Investment
System Embeddedness
Institutional Pressures

Figure 4. Sample of coding results.

After a thorough selection, the grouping of word with the same theme, and colour-coding to the similar factors a model was developed as shown in **Figure 5**. The result indicates that the SSCT school level IS discontinuance intention which are system shortcomings, organizational initiative, environmental change, system investment, and institutional pressures. Since the information system (IS) of the SSCT school was developed from the different university which has different processing procedures and culture, which result in *system shortcoming*. The president of the SSCT school changes the *organizational structure*, which leads to an information system (IS) discontinuance. Implementation of ISO standards and accreditation where the environmental change that triggers information system (IS) discontinuance of SSCT school. Numbers of students

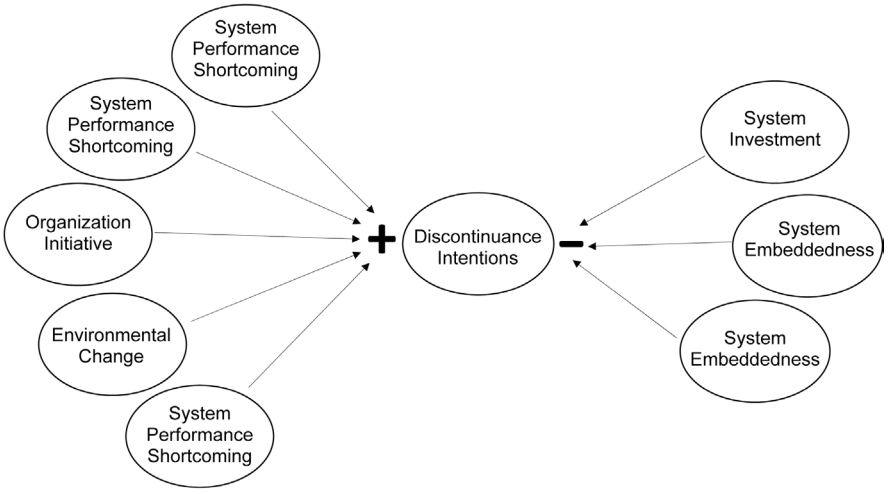

Figure 5. School level information system (IS) discontinuance intention.

are increasing every year, and SSCT school offers an additional course that drives more income and willing to invest to a new information system (IS) that fits the culture which contribute to IS discontinuance of older system. SSCT school is aiming to be university and institutional pressures in the field of research and extension are rolled out to which also influence the IS discontinuance.

5. Conclusion

A model of school-level information system (IS) discontinuance intention of Surigao State College of Technology is formulated. Issues on system shortcomings, organizational initiative, environmental change, system investment, and institutional pressures are the parameter to be considered that it is time to implement or change the existing information system (IS). It will help school administrators in planning and improving school transactions and services.

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Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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