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Determining The Level Of Risks Of Information Technology Among State Universities And Colleges (Sucs): Basis For A Training Program On A Management Perspective

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Abstract

The field of Information Technology is at the forefront of guiding educators in revamping their strategies to cater to the requirements of contemporary learners in the 21st century. These learners are increasingly diverse and accustomed to utilizing advanced tools for various classroom activities such as instruction, accessing accounts, fee payments, and other related services. State Universities and Colleges (SUCs) in Region IX were remodeling their pedagogical approach to attract learners, Using the Context Input Process Product, the study attempted to ascertain the risk management on Information Technology among SUCs in Region IX. It employed the quantitative-qualitative methods of research involving 283 respondents representing students, faculty, financial, auxiliary, employee services and the Deans/Directors. It used the validated questionnaire-checklist and the unstructured questionnaire/interview guide in gathering data. Descriptive statistics was used in the analysis of data. The study concluded that IT plays a vital role in the different service areas of SUCs. It has become an essential element to make services faster and efficient. It is recommended that SUCs may upgrade their access to the internet as this may bridge knowledge gaps among teachers and students; and improve the General Information System (GIS) and security surveillance capability through IT.

Keywords: Information Technology, Cyber Risks, State Universities And Colleges (Sucs), Training Program, Management Perspective.

Introduction

Information technology (IT) encompasses the utilization of computer systems or devices for the purpose of acquiring information. It plays a significant role in our professional endeavors, business functions, and personal access to information, to the extent that it permeates a substantial portion of our daily activities. Whether we are involved in storing, retrieving, accessing, or manipulating information, IT profoundly influences our day-to-day existence.

Enhancing the standard of education and training is a pressing concern in the educational landscape of the Philippines, particularly during a period of educational expansion aimed at catering to the needs of 21st century learners. Imagine managing a Higher Education Institutions (HEIs) without Information Technology (IT), it may result to greater risk of having low access to innovative tools. As stated by Olander (2007), advancements in computer-related technology have paved the way for educators to revamp their pedagogical approaches in order to cater to an increasingly diverse, globalized, and digitally adept learner population. Olander further cited data from Internet World Stats (2010), an international online database that monitors global internet usage, which revealed that there were approximately 1.966 billion internet users worldwide. This translates to a global penetration rate of 28.7%, indicating that one out of every three individuals have access to the internet. Moreover, between 2000 and 2010, the number of internet users experienced a nearly five-fold increase. A

substantial portion of these internet users comprises students who are well-versed in contemporary technological trends, such as podcasting, blogging, and various other digital tools. It is an undeniable reality that students have been actively utilizing IT to access information.

Nonetheless, numerous organizations still grapple with the task of quantifying the risks associated with information technology. Furthermore, the prevailing metrics used to assess information technology risks primarily focus on tactical aspects rather than strategic security indicators. The abundance of data obtained from information security technology solutions could potentially contribute to the complexity of risk evaluations. Successful risk management on mitigating and/or improving classroom instruction with the use of IT allowed safer and more innovative operations of the institution in terms of assets, learning activities, record keeping and finance protection, as well as improvement of the services it offers. Thus, an HEI acquires a greater reputation when risk management culture is established and trust of its consumers and clientele on the services provided by the different areas of the institutions.

The Zamboanga City State Polytechnic College (ZCSPC) is experiencing the mounting pressure to manage expenses, enhance quality, prioritize customer requirements, and address the competitive challenges within various departments. It has been observed that during enrolments there is crowding of students, difficulty of accessing accounts; prolong waiting, and processing of enrolment forms and other necessities. Teachers have been complaining of difficulty of discussing complex topics with limited IT equipment to facilitate discussion inside the classroom. Surveillance system is also a problem during night shift to maintain safety and security of the school facilities.

This study was inspired by the researcher's belief that Information Technology (IT) has all the potential to facilitate learner-centered education where difficult and complex topics in science, engineering and in others disciplines be discussed and further elaborated with pictures, concrete examples and graphs with speed and precision. The researcher also believes that through IT distance education will be possible in the future, and expand the scope and content of the curriculum. This potential has often been more hype than reality, but hope is on the horizon. It is in this light that this study is conducted to serve as basis for a training program.

Review of Related Literature and Studies

Information Technology in State Universities and Colleges

There is no doubt that the incorporation of Information Technology (IT) or Information Systems (IS) has greatly improved the efficiency and efficacy of daily classroom activities. The true value of IT stems from its ability to establish connections between various systems, leading to enhanced functionality and improved communication (Ahlan, 2005). These connections inherently encompass interdependence, interoperability, and interconnectedness (O'Brien, 1996). In the past, IT was primarily regarded as a support system for organizational backend operations, offering limited strategic value. However, this perception has evolved, primarily driven by the immense potential that pervasive IT holds for enhancing the efficiency and effectiveness of all aspects of daily operations for profitable organizations, communities, and individuals, ultimately facilitating the achievement of strategies and objectives. IT innovations enable the increasing sophistication of IT users (Ahlan, 2005).

Through technology, State Universities and Colleges can now more readily employ diverse teaching methods and enhance the teaching and learning experience by aligning instructional approaches with individual learning styles. Recent studies in neuroscience have highlighted that each individual learns in a unique way. By

providing students with access to various learning methods to master a subject, their chances of success are significantly heightened. Furthermore, learning outcomes can be identified and paired with appropriate technologies to deliver content in a systematic learning experience. This alignment ensures that outcomes align with proven teaching methodologies, incorporating technology and measurable assessment. Courses can be collaboratively developed by teams based on research on learning and validated results that have demonstrated their effectiveness in enhancing students' learning outcomes.

As stated by Katz et al. (2008), information technology (IT) played a multifaceted role in the educational process, permeating various aspects of academia, research, and administrative functions within the university. IT services offered significant utility alongside other essential services, particularly in Student Services. These services include a wide range of functions such as admissions, registration, payment of tuition and fees, financial aid, student portals, activity fees, access to library and research resources, management systems for course materials, degree audits, directories, assignment submission and management systems, course management systems, examinations, video lectures, online laboratory facilities, interactive distance courses, online courses, and course evaluations.

Moreover, IT services extended to faculty members, providing them with tools and resources to enhance communication and collaboration with students, staff, and colleagues. Among the services provided to faculty members were the dissemination of course-related information, online classrooms, instructional video services, learning objects, on-demand access to media resources, recording and publishing of lectures, grading systems, online reporting of faculty activities, creation of faculty profile websites, maintenance of faculty databases, online platforms for review, promotion, and tenure processes, researcher identification systems, online collaboration tools for research and teaching, support for computational research, data storage solutions, classroom scheduling tools, and IT-equipped classrooms. Additionally, dedicated faculty portals were accessible to facilitate convenient access to a wide range of resources and services.

In a study conducted by Teo (2008) in Singapore, pre-service teachers' attitudes towards computer use were examined. The survey encompassed a total of 139 participants, and their attitudes towards computers were assessed through a questionnaire that measured four key factors: affect (liking), perceived usefulness, perceived control, and behavioral intention to use computers. The results indicated that teachers exhibited more positive attitudes towards computers and demonstrated a stronger intention to use them, compared to their perceptions of the usefulness and their control over computer technology.

In a similar vein, Drent and Meelissen (2008) conducted a study in the Netherlands to investigate the factors influencing the innovative use of ICT by teacher educators. The sample consisted of 210 teachers, and the study revealed that a student-oriented pedagogical approach, positive attitudes towards computers, computer experience, and the personal entrepreneurship of the teacher educators directly and positively influenced the innovative use of ICT by teachers. Earlier research has also supported the idea that teachers' attitudes towards technology significantly impact their acceptance of its usefulness and its integration into teaching (Huang & Liaw, 2005).

In a separate study, Peralta and Costa (2007) examined 20 teachers in Italy to explore their competences and confidence in using ICT in classrooms. The findings revealed that the technical competence of teachers with technology played a critical role in enhancing their confidence in using ICT. Additionally, teachers in Greece reported that pedagogical and personal factors were the primary contributors to their confidence in using ICT.

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Stoneburner, Goguen, and Feringa (2002) assert that risk involves the dynamic interplay between the probability of a specific threat-source exploiting a particular vulnerability and the resulting impact of an adverse event on an organization. Risk management is a systematic process that empowers IT managers to strike a balance between the operational and economic costs associated with implementing protective measures. By effectively managing risk, IT managers can enhance their organizations' mission capability by safeguarding the integrity of their IT systems and the confidentiality of their data. It is important to note that risk management is not limited to the realm of IT but extends to decision-making in various aspects of our daily lives. For instance, the concept of risk management is evident in the context of home security. Homeowners often install security systems and engage monitoring services to protect their property. This decision is based on a careful evaluation of the costs involved, such as system installation and monitoring fees, weighed against the value of their household belongings and the safety of their family, which represents a fundamental mission-critical need.

However, the rapid adoption of information technology (IT) presents organizations with more complex and advanced risks, whether they originate from within the organization or externally. The security and risk associated with IT have been significant concerns for organizations ever since the introduction of computer systems. Different organizations display varying levels of sensitivity to risks related to data and information, as well as exposure to risks stemming from technical, organizational, project, and human factors (Wei et al., 2010; Ahlan et al., 2011). For example, the manufacturing sector generally shows less sensitivity to information risks compared to the healthcare and education sectors, while the banking and finance sector exhibits even higher sensitivity. Universities, which possess highly sensitive data and information, face substantial risks. The more dependent an organization is on IT, the more vulnerable it becomes to IT-related risks.

Moreover, IT hardware, software, and systems are becoming increasingly advanced and costly. Concurrently, hackers, intruders, and fraudsters are also growing in sophistication and consistently staying ahead of technology (Gerace and Cavusoglu, 2009). As a result, manufacturers, service providers, and IT managers are under pressure to continually improve the quality and security of their products and services.

Baccarini, D., Salm, G., Love, P. (2007) explained that risk management plays a crucial role in ensuring the successful execution of IT projects. To investigate how IT risks were handled in such projects, comprehensive interviews were conducted with IT professionals from prominent companies in Western Australia. By assessing the probability and potential impact of 27 IT risks, respondents identified the most significant ones. These top five critical risks, ranked by importance, consisted of a shortage of personnel, project schedules and budgets that were unreasonable, unrealistic expectations, incomplete requirements, and a limited timeframe caused by delays in software delivery. The preferred approach to address these risks was risk reduction, as chosen overwhelmingly by the respondents. Notably, these risk management approaches were predominantly based on project management procedures rather than technical ones, highlighting the concept that project management itself serves as a risk management strategy. Some of the solutions applied to multiple risks included scope, quality management, and human resource management. Particularly noteworthy was the adoption of a specific risk treatment to manage various critical IT risks, which involved handling stakeholders' expectations)Baccarini, D., Salm, G., Love, P. (2007).

However, the IT risk lies in the fact that a significant number of students, exceeding sixteen million, are currently residing below the poverty line, and an additional eight million qualify for free or reduced-price lunch programs. This highlights the growing issue of child poverty, with children from low-income backgrounds constituting nearly half of the student population in certain regions across the globe. Technology risk, or cyber risk, pertains to any potential hazards associated with information technology. While the importance of

information has been acknowledged for some time, the rise of the knowledge economy and the Digital Revolution has led to organizations increasingly relying on information, information processing, and especially IT systems. Consequently, any events or incidents that compromise IT in any manner can profoundly affect the organization's business operations or mission, ranging from minor disruptions to catastrophic consequences. Assessing and quantifying IT risks often involve evaluating the likelihood of various events or incidents occurring and their expected impacts. Alternative approaches for measuring IT risk typically consider other contributing factors, such as threats, vulnerabilities, exposures, and asset values. Thus, with the demand for integrating Information technology (IT) into the curriculum of the students especially in higher education, there is a must for school administrators to formulate a training program among the faculty and students to be aware of these cyber risks and come up with a mitigation formula.

The significance of information security corresponds to the extent of reliance an organization has on information technology. When an organization's information is vulnerable to risk, the utilization of information security technology is evidently suitable. Nevertheless, existing information security technology addresses only a minor portion of the information risk predicament. In fact, mounting evidence indicates that information security technology is not particularly efficient in diminishing information risk (Blakley, B., McDermott, E., Geer, D., 2001)

Research Objective

1. Determine the level of risk in information technology (IT) among selected state universities and colleges (SUCs) in Region IX in terms of students services.

2. Determine the level of risk in information technology (IT) among selected state universities and colleges (SUCs) in Region IX in terms of students services.

Methodology

The study used a quantitative-descriptive research design focusing on risk management in Information Technology (IT) by selected SUCs in Region IX in areas, such as student services, faculty services, financial services, auxiliary services, and employee services.

Th**s** was conducted in selected SUCs in Region IX. The researcher utilized the convenience sampling technique. It is a non-probability sampling technique where subjects were selected because of their convenient accessibility and proximity to the researcher. In this study, the researcher included respondents who were willingly able to participate in the study. The respondents were from the five key areas: student services, faculty services, financial services, financial services, and employee services of the selected SUCs in Region IX. The summaries of respondents were shown in Table 1.

Table 1. Summary of Respondents

SUCs	Student Services	Faculty Services	Financial Services	Auxiliary Services	Employee Services	Deans/ Department Heads	Total
SUC A	19	20	24	19	21	4	107
SUC B	17	24	14	21	20	3	99
SUC C	15	14	14	19	11	4	77

SUC D	25	24	17	19	12	3	100
Total	**76**	**82**	**69**	**78**	**64**	**14**	**383**

To meet the research objectives, this study utilized a researcher-made instrument comprising a questionnaire Checklist and an unstructured questionnaire/interview guide design to assess and evaluate risk in the school/student enrollment, teaching processes, financial processes, and environmental hazards. The first part is centered on the respondents' profiles which included
their highest educational attainment, position, length of services, and computer literacy.

The second part is on Risk Management areas, such as student services, faculty services, financial services, auxiliary services, and employee services with 10 indicators each.The different levels of risk were defined as follows: 1- unlikely to occur which refers to the 1% chance of occurrence may result in a minor impact on services affecting a specific department's services only; the level of risk was perceived to be low, 2 -likely to occur which refers to the 50% chance of occurrence may result to a significant impact on services, the level of risk was perceived to be medium; 3 - fairly likely to occur refers to the 75% chance of occurrence may result in a severe impact on some (but not all) services delivered by the institution; the level of risk was perceived to be high and 4 - very likely to occur refers to the 100% chance of occurrence may result in a severe impact on all services institution-wide, level of risk was perceived to be very high.
The third part focused on the Tolerability Assessment in the areas, such as student services, faculty services, financial services, auxiliary services, and employee services with 10 indicators each. Evaluation of tolerability was measured as, 1 – refers to as tolerable: treat the risk (by preparing a contingency plan); 2 – refers to as acceptable: tolerate the risk (in the case of unavoidable risks); 3 - refers to as fairly acceptable in some degrees: transfer the risk (such as by purchasing insurance, where applicable); and 4 - refers to as intolerable: terminate the risk (withdraw from an activity).

Results and Discussion

Level of Risk in Information Technology (IT) among selected State Universities and Colleges (SUCs) in Region IX in terms of Students' Services

Table 2. shows that in the absence of IT in SUC A the level of risk was high with 3.20 which indicated that this may result to 75% chance for severe disruption on some (but not all) services in Student Service Section.

However, the very high risks were perceived to cause severe impact resulting to difficulties in accessing course materials and/or management systems, such as, plotting class schedules, longer waiting hours for tuition and fee payment and eventually students will not be able to utilize video lectures and other WEB resources. This implies that without the use of IT teachers and program coordinator of the different departments of SUC A will very likely to experience problems towards distributing course materials, as well as plotting of class schedules, room number, securing list of students during the beginning of the semesters. The need for students to be informed is vital towards demonstrating a well-organized system of managing course programs of the department.

The respondents also believed that without the use of IT, the students are very likely to have problems paying their tuition fees and accessing their accounts, as well as waiting for hours will result to crowding of students in the assessment and cashier. The collection of small fees will very likely to be very difficult for SUC A's staff without means of monitoring and documenting payments and other fees. In addition, not being able to utilize

video lectures will very likely to result to low quality of discussion, especially for complex concepts in science, biology, anatomy and physiology and others subjects that require in depth discussion with the use of multimedia. IT delivers fast, accurate and more detailed discussion of complex topics.

Because of the very high risk of having 100% chance of occurrence, it may result to severe impact on these services. The respondents of SUC A believed that this risk must be terminated immediately to be able to prevent disorganize systems of management of the different students services as well disorganize flow of enrolment every semester.

Table 2. Levels of Risk in IT on Student Services at SUC A

Absence of IT towards providing Student Services will result to:	**Level of Risk**			**Level of Tolerability**	
	Mean	**Description**	**Interpretation**	**Mean**	**Interpretation**
1. Disorganized flow of admission,	3.14	Fairly Likely To Occur	High	3.44	Untolerable
2. Difficulty during registration/enrollment	3.08	Fairly Likely To Occur	High	3.39	Untolerable
3. Longer waiting hours for tuition and fee payment	3.26	Very Likely To Occur	Very High	3.48	Untolerable
4. Problems paying other fees for athletics, use of library, access to information,	3.24	Fairly Likely To Occur	High	3.43	Untolerable
5. Difficulty accessing course materials and/or management systems such as plotting class schedules	3.27	Very Likely To Occur	Very High	3.46	Untolerable
6. No transparent audit system or accessing student account.	3.22	Fairly Likely To Occur	High	3.40	Untolerable
7. Absence of student/faculty/department directory	3.24	Fairly Likely To Occur	High	3.42	Untolerable
8. Difficulty in accessing information for homework and assignments	3.07	Fairly Likely To Occur	High	3.48	Untolerable

9. Absence of course management systems,	3.17	Fairly Likely To Occur	High	3.49	Untolerable
10. Does not utilized video lectures and other WEB resources	3.26	Very Likely To Occur	Very High	3.51	Untolerable
Average Mean Score	3.20	Fairly Likely To Occur	High	3.45	Untolerable

Legend:

Level of Risk			
Unlikely To Occur 1	**Likely To Occur 2**	**Fairly Likely To Occur 3**	**Very Likely To Occur 4**
Low 1.0 – 1.75	**Medium 1.76 – 2.50**	**High 2.51 – 3.25**	**Very High 3.26 – 4.0**
Level of Tolerability			
Tolerable 1.0 – 1.75	**Acceptable 1.76 – 2.50**	**Fairly Acceptable 2.51 – 3.25**	**Untolerable 3.26 – 4.0**
1% chances of occurrence may result to minor impact on services – affecting a specific department services only, it is Tolerable: Treat the risk (by preparing a contingency plan)	50% chances of occurrence may result to significant impact on services and is Acceptable however actions should be taken to reduce risks so that they become acceptable	75% chances of occurrence may result to severe impact on some (but not all) services and is Fairly Acceptable in some degrees but must be treated seriously by taking action immediately.	100% Chances of Occurrence may result to severe impact on all services and is untolerable and must be terminated.

Table 3. shows that in the absence of IT the level of risk were very high in the Student Service Section of SUC B. It implies that 100% chance of the occurrence these risks may cause severe impact on all services of the said section. The highest recorded risk was perceived to cause severe impact on the student service section of SUC B that may deny students to experience video lectures and other WEB. Difficulty in accessing information for homework and assignments and longer waiting hours for tuition fee payment. This implies that problem of low level of classroom discussion is very likely to occur in the absence of IT. Teachers will have difficulty discussing complex topics that require in depth discussion with the use of pictures, video clips and/or multimedia approach. For example in

Table 3. Levels of Risk in IT on Student Services at SUC B

Absence of IT towards providing Student Services will result to:	**Level of Risk**			**Level of Tolerability**	
	Mean	**Description**	**Interpretation**	**Mean**	**Interpretation**

1.	Disorganized flow of admission,	**3.70**	Very Likely To Occur	Very High	**3.62**	Untolerable
2.	Difficulty during registration/enrollment,	**3.70**	Very Likely To Occur	Very High	**3.56**	Untolerable
3.	Longer waiting hours for tuition and fee payment,	**3.73**	Very Likely To Occur	Very High	**3.49**	Untolerable
4.	Problems paying other fees for athletics, use of library, access to information,	**3.70**	Very Likely To Occur	Very High	**3.66**	Untolerable
5.	Difficulty accessing course materials and/or management systems such as plotting class schedules	**3.62**	Very Likely To Occur	Very High	**3.66**	Untolerable
6.	No transparent audit system or accessing student account.	**3.66**	Very Likely To Occur	Very High	**3.71**	Untolerable
7.	Absence of student/faculty/department directory	**3.74**	Very Likely To Occur	Very High	**3.76**	Untolerable
8.	Difficulty in accessing information for homework and assignments	**3.67**	Very Likely To Occur	Very High	**3.71**	Untolerable
9.	Absence of course management systems,	**3.68**	Very Likely To Occur	Very High	**3.78**	Untolerable
10.	Does not utilized video lectures and other WEB resources	**3.79**	Very Likely To Occur	Very High	**3.80**	Untolerable
	Average Mean Score	**3.70**	Very Likely To Occur	Very High	**3.67**	Untolerable

Legend:

Level of Risk			
Unlikely To Occur **1**	**Likely To Occur** **2**	**Fairly Likely To Occur** **3**	**Very Likely To Occur** **4**
Low **1.0 – 1.75**	**Medium** **1.76 – 2.50**	**High** **2.51 – 3.25**	**Very High** **3.26 – 4.0**
Level of Tolerability			
Tolerable **1.0 – 1.75**	**Acceptable** **1.76 – 2.50**	**Fairly Acceptable** **2.51 – 3.25**	**Untolerable** **3.26 – 4.0**
1% chances of occurrence may result to minor impact on services –	50% chances of occurrence may result to significant impact on services and is Acceptable however	75% chances of occurrence may result to severe impact on some (but not all)	100% Chances of Occurrence may result to severe impact on

affecting a specific department services only, it is Tolerable: Treat the risk (by preparing a contingency plan)	actions should be taken to reduce risks so that they become acceptable	services and is Fairly Acceptable in some degrees but must be treated seriously by taking action immediately.	all services and is untolerable and must be terminated.

Biology, teachers will have difficulty showing students the actual structure, parts and functions of the cell.More so, students' are very likely to experience difficulty in accessing information for their homework without relevant literature and studies of different authors found in internet sources. Moreover, longer waiting hours and difficulty of paying tuition and accessing students account will very likely to result to crowding during enrolment. The respondents believed the risks were untolerable and must be terminated immediately.

Table 4 shows that in the absence of IT in SUC C the level of risk in the Student Services Section of SUC C was very high risk. It indicates that 100% chance of occurrence of this risk may result to severe impact on all services. The highest risk recorded was perceived to cause severe impact on SUC C student service section resulting to longer waiting hours for tuition and fee payment, could not utilized video lectures and other WEB resources, absence of course management systems and will have difficulty during registration/enrollment.
This implies that SUC C will very likely to have problems during enrolment every semester if IT will not be integrated or improve. This will result to disorganize flow of enrolment, and difficulty of accessing students account. Students will have problems in paying fees and balances of their previous tuition fees as well as current charges.

Table 4. Levels of Risk in IT on Student Services at SUC C

Absence of IT towards providing Student Services will result to:	**Level of Risk**			**Level of Tolerability**	
	Mean	**Description**	**Interpretation**	**Mean**	**Interpretation**
1. Disorganized flow of admission,	3.48	Very Likely To Occur	Very High	3.21	Fairly Acceptable
2. Difficulty during registration/enrollment,	3.53	Very Likely To Occur	Very High	3.25	Fairly Acceptable
3. Longer waiting hours for tuition and fee payment,	3.57	Very Likely To Occur	Very High	3.17	Fairly Acceptable
4. Problems paying other fees for athletics, use of library, access to information,	3.51	Very Likely To Occur	Very High	3.14	Fairly Acceptable
5. Difficulty accessing course materials and/or management systems such as plotting class schedules	3.45	Very Likely To Occur	Very High	3.26	Untolerable

6. No transparent audit system or accessing student account.	3.47	Very Likely To Occur	Very High	3.26	Untolerable
7. Absence of student/faculty/department directory	3.49	Very Likely To Occur	Very High	3.29	Untolerable
8. Difficulty in accessing information for homework and assignments	3.49	Very Likely To Occur	Very High	3.30	Untolerable
9. Absence of course management systems,	3.53	Very Likely To Occur	Very High	3.23	Untolerable
10. Does not utilized video lectures and other WEB resources	3.55	Very Likely To Occur	Very High	3.26	Untolerable
Average Mean Score	3.51	Very Likely To Occur	Very High	3.26	Untolerable

Legend:

Level of Risk			
Unlikely To Occur 1	**Likely To Occur 2**	**Fairly Likely To Occur 3**	**Very Likely To Occur 4**
Low 1.0 – 1.75	**Medium 1.76 – 2.50**	**High 2.51 – 3.25**	**Very High 3.26 – 4.0**
Level of Tolerability			
Tolerable 1.0 – 1.75	**Acceptable 1.76 – 2.50**	**Fairly Acceptable 2.51 – 3.25**	**Untolerable 3.26 – 4.0**
1% chances of occurrence may result to minor impact on services – affecting a specific department services only, it is Tolerable: Treat the risk (by preparing a contingency plan)	50% chances of occurrence may result to significant impact on services and is Acceptable however actions should be taken to reduce risks so that they become acceptable	75% chances of occurrence may result to severe impact on some (but not all) services and is Fairly Acceptable in some degrees but must be treated seriously by taking action immediately.	100% Chances of Occurrence may result to severe impact on all services and is untolerable and must be terminated.

It will eventually result to crowding, as a result of slow and inefficient enrolment process. The absence of course management will lead to disorganized flow of the students services, as well as difficulty in guiding the students in choosing appropriate courses of action in the different programs and curriculum. In addition, the absence of video lecture will very likely to result low level of educational outcomes among courses/programs of the different department of SUC C.

The levels of tolerability were believed to be untolerable and that 100% chance of occurrence result to severe impact or disruption on the student services area. The respondents believed that it must be terminated immediately.

Table 5. shows that in the absence of IT the level of risk on the Student Services Section was high. The highest risk may result to longer waiting hours for tuition and fee payment difficulty during registration/enrollment, problems paying other fees for athletics, use of library, access to information difficulty accessing course materials and/or management systems such as plotting class schedule. This implies that without the integration or improving the IT System of SUC D this risk will fairly likely to result to disorganized flow of enrolment of students, slow and inefficient enrolment process and eventually will result to crowding during enrolment. The end result in the first day of classes will move due to the large number of students who are not yet enrolled.

Table 5. Levels of Risk in IT on Student Services at SUC D

Absence of IT towards providing Student Services will result to:	**Level of Risk**			**Level of Tolerability**	
	Mean	**Description**	**Interpretation**	**Mean**	**Interpretation**
1. Disorganized flow of admission,	2.51	Fairly Likely To Occur	High	2.54	Fairly Acceptable
2. Difficulty during registration/enrollment,	2.70	Fairly Likely To Occur	High	2.71	Fairly Acceptable
3. Longer waiting hours for tuition and fee payment,	2.77	Fairly Likely To Occur	High	2.77	Fairly Acceptable
4. Problems paying other fees for athletics, use of library, access to information,	2.70	Fairly Likely To Occur	High	2.77	Fairly Acceptable
5. Difficulty accessing course materials and/or management systems such as plotting class schedules	2.66	Fairly Likely To Occur	High	2.54	Fairly Acceptable
6. No transparent audit system or accessing student account.	2.53	Fairly Likely To Occur	High	2.70	Fairly Acceptable
7. Absence of student/faculty/department directory	2.29	Likely To Occur	Medium	2.51	Acceptable
8. Difficulty in accessing information for homework and assignments	2.49	Likely To Occur	Medium	2.34	Acceptable
9. Absence of course management systems,	2.51	Fairly Likely To Occur	High	2.49	Acceptable

10. Does not utilized video lectures and other WEB resources	2.95	Likely To Occur	Medium	2.48	Acceptable
Average Mean Score	2.61	Fairly Likely To Occur	High	2.59	Fairly Acceptable

Legend:

Level of Risk			
Unlikely To Occur 1	**Likely To Occur 2**	**Fairly Likely To Occur 3**	**Very Likely To Occur 4**
Low 1.0 – 1.75	**Medium 1.76 – 2.50**	**High 2.51 – 3.25**	**Very High 3.26 – 4.0**
Level of Tolerability			
Tolerable 1.0 – 1.75	**Acceptable 1.76 – 2.50**	**Fairly Acceptable 2.51 – 3.25**	**Untolerable 3.26 – 4.0**
1% chances of occurrence may result to minor impact on services – affecting a specific department services only, it is Tolerable: Treat the risk (by preparing a contingency plan)	50% chances of occurrence may result to significant impact on services and is Acceptable however actions should be taken to reduce risks so that they become acceptable	75% chances of occurrence may result to severe impact on some (but not all) services and is Fairly Acceptable in some degrees but must be treated seriously by taking action immediately.	100% Chances of Occurrence may result to severe impact on all services and is untolerable and must be terminated.

Moreover, students will have difficulty paying fees for athletics, use of library and other fees due to longer waiting period and difficulty accessing students information as to what fees are already been paid, and/or checking previous unpaid fees. On the other hand, the respondents believed that the level of tolerability was fairly acceptable but must be taken seriously and take immediate action to make risk acceptable. Action may include increase in prominence of IT in this section, increase manpower for the collection fees, and extension of enrolment period.

This study conducted on risk management of IT among SUCs in the Student Services Section has proven to be in support of the claims of Katz and associates. Katz et al. (2008) claimed and acknowledged that Information technology (IT) plays a crucial role in various aspects of the educational process. It permeates the academic, research, and administrative functions of the university, offering pervasive support. IT services greatly enhance other essential services, particularly in Student Services, encompassing admission processes, registration, tuition and fee payments, financial aid, student portals, fees and activities management, access to library and research information, course materials and management systems, degree audit systems, directories, assignment submission and management systems, examination systems, availability of video lectures and

educational resources, online laboratory facilities, interactive distance courses, online course offerings, and course evaluation mechanisms.

Level of Risk in Information Technology (IT) among selected State Universities and Colleges (SUCs) in Region IX in terms of Faculty Services

Table 6. shows that in the absence of IT the level of risk in SUC A in the Faculty Services Section is high. It implies that 75% chance of occurrence that may result to severe impact on some (but not all) services in this section. However, the respondents believed that in the absence of IT it will very likely have substandard learning objects and media presentation and absence of motivating lecture video capture and web posting. The absence of collaborating tools for research and teaching was very high. The same with high risk on absence of online faculty activity reports and absence of online classrooms and/or IP video services and lack of information towards faculty profiles.

This implies that without IT teachers in SUC A will very likely to have difficulties in discussing complex topics, and formulating an in depth discussion of concepts inside the classroom. IT allows faster access of information needed for classroom assignments and other tools needed for research works and teaching strategies.

Table 6. Levels of Risk in IT on Faculty Services at SUC A

Absence of IT towards providing Faculty Services will result to:	Level of Risk			Level of Tolerability	
	Mean	Description	Interpretation	Mean	Interpretation
1. Poor communications and collaboration with students, staff and colleagues	3.00	Fairly Likely To Occur	High	3.72	Untolerable
2. Difficulty towards discussing complex materials/lectures	3.08	Fairly Likely To Occur	High	3.80	Untolerable
3. Difficulty of distribution of course information	3.06	Fairly Likely To Occur	High	3.82	Untolerable
4. Absence of online classrooms and/or IP video services	3.21	Fairly Likely To Occur	High	3.81	Untolerable
5. Substandard learning objects and media presentation	3.27	Very Likely To Occur	Very High	3.72	Untolerable
6. Absence of motivating lecture video capture and web posting	3.27	Very Likely To Occur	Very High	3.74	Untolerable
7. Difficulty of recording of student grades	3.10	Fairly Likely To Occur	High	3.76	Untolerable

8. Absence of online faculty activity reports	3.21	Fairly Likely To Occur	High	3.73	Untolerable
9. Lack of information towards faculty profiles	3.17	Fairly Likely To Occur	High	3.75	Untolerable
10. No collaboration tools for research and teaching	3.27	Fairly Likely To Occur	High	3.78	Untolerable
Average Mean Score	3.16	Fairly Likely To Occur	High	3.76	Untolerable

Legend:

Level of Risk			
Unlikely To Occur 1	**Likely To Occur 2**	**Fairly Likely To Occur 3**	**Very Likely To Occur 4**
Low 1.0 – 1.75	**Medium 1.76 – 2.50**	**High 2.51 – 3.25**	**Very High 3.26 – 4.0**
Level of Tolerability			
Tolerable 1.0 – 1.75	**Acceptable 1.76 – 2.50**	**Fairly Acceptable 2.51 – 3.25**	**Untolerable 3.26 – 4.0**
1% chances of occurrence may result to minor impact on services – affecting a specific department services only, it is Tolerable: Treat the risk (by preparing a contingency plan)	50% chances of occurrence may result to significant impact on services and is Acceptable however actions should be taken to reduce risks so that they become acceptable	75% chances of occurrence may result to severe impact on some (but not all) services and is Fairly Acceptable in some degrees but must be treated seriously by taking action immediately.	100% Chances of Occurrence may result to severe impact on all services and is untolerable and must be terminated.

More so, lack of prominence in IT in SUC A will very likely to result difficulty in accessing faculty profile especially during first day of classes. Students will have difficulty looking for their instructors or teachers in the different subjects.

On the other hand, the respondents believed that the level of tolerability was untolerable and must be terminated to prevent the occurrence of such problems at once. Lack of prominence in IT is perceived to result to other problems, such as, disruption in the communication and collaboration with students, staff and colleagues, difficulty towards discussing complex materials/lectures, and difficulty of distribution of course information.

Table 7. shows that in the absence of IT the level of risk is high in the Faculty Services Section of SUC B. It means that 75% chances of occurrence may result to severe impact on some (but not all) faculty services. Hence, the respondents perceived that with the lack of prominence in IT, problems will fairly likely to occur on

communications and collaboration with students, staff and colleagues. Difficulty of distribution of course information and absence of online classrooms and/or IP video services and will also fairly likely to occur.

This implies that faculties of SUC B will fairly likely to have problems with communicating with students and in collaborating with other faculty. The lack of collaboration with other faculty decreases the quality of unified educational outcome. Faculty have all the advantage whenever reaching out to students by giving online assignment and posting online lectures using multimedia approach so that students can review their lectures even at home.

Table 7. Levels of Risk in IT on Faculty Services at SUC B

Absence of IT towards providing Faculty Services will result to:	**Level of Risk**			**Level of Tolerability**	
	Mean	**Description**	**Interpretation**	**Mean**	**Interpretation**
1. Poor communications and collaboration with students, staff and colleagues	3.10	Fairly Likely To Occur	High	3.00	Fairly acceptable
2. Difficulty towards discussing complex materials/lectures	2.86	Fairly Likely To Occur	High	2.81	Fairly acceptable
3. Difficulty of distribution of course information	2.91	Fairly Likely To Occur	High	2.84	Fairly acceptable
4. Absence of online classrooms and/or IP video services	2.89	Fairly Likely To Occur	High	2.90	Fairly acceptable
5. Substandard learning objects and media presentation	2.86	Fairly Likely To Occur	High	3.02	Fairly acceptable
6. Absence of motivating lecture video capture and web posting	2.86	Fairly Likely To Occur	High	3.02	Fairly acceptable
7. Difficulty of recording of student grades	2.80	Fairly Likely To Occur	High	3.04	Fairly acceptable
8. Absence of online faculty activity reports	2.88	Fairly Likely To Occur	High	2.94	Fairly acceptable
9. Lack of information towards faculty profiles	2.86	Fairly Likely To Occur	High	3.01	Fairly acceptable
10. No collaboration tools for research and teaching	2.62	Fairly Likely To Occur	High	3.06	Fairly acceptable

Average Mean Score	2.86	Fairly Likely To Occur	High	2.97	Fairly acceptable

Legend:

Level of Risk			
Unlikely To Occur 1	**Likely To Occur 2**	**Fairly Likely To Occur 3**	**Very Likely To Occur 4**
Low 1.0 – 1.75	**Medium 1.76 – 2.50**	**High 2.51 – 3.25**	**Very High 3.26 – 4.0**
Level of Tolerability			
Tolerable 1.0 – 1.75	**Acceptable 1.76 – 2.50**	**Fairly Acceptable 2.51 – 3.25**	**Untolerable 3.26 – 4.0**
1% chances of occurrence may result to minor impact on services – affecting a specific department services only, it is Tolerable: Treat the risk (by preparing a contingency plan)	50% chances of occurrence may result to significant impact on services and is Acceptable however actions should be taken to reduce risks so that they become acceptable	75% chances of occurrence may result to severe impact on some (but not all) services and is Fairly Acceptable in some degrees but must be treated seriously by taking action immediately.	100% Chances of Occurrence may result to severe impact on all services and is untolerable and must be terminated.

The respondents believed that the level of tolerability was fairly acceptable in some degrees but must be taken seriously. Intervention like asthe use of Outcome - Based Education strategies may serve as a substitute for the lack of prominence in IT in SUC B. It is suggested that in whatever way possible prominence of IT must be improve, and must be included in the yearly budgeting of the administration for additional computer, LCD projectors, Laptops, and internet access to facilitate better classroom discussion, communication and collaborate.

Table 8. shows that in the absence of IT the level of risk in the Faculty Services Section of SUC C was high. It indicated that 75% chance of having a severe impact on some of the services in the said section. The respondents perceived that the lack of prominence in IT will fairly like to cause problems with communication and collaboration with students, staff and colleagues. It will also have difficulty of distribution of course information and absence of online classrooms and/or IP video services.

This implies that IT in SUC C resolves issues by establishing linkages and collaboration with faculties towards unifying efforts to meet the educational needs of the students. Lack of prominence in IT will fairly be likely to have problems with delivery of right information required by the course, to include difficulty in discussing complex topics.

Table 8. Level of Risk in IT on Faculty Services at SUC C

	Level of Risk	**Level of Tolerability**

Absence of IT towards providing Faculty Services will result to:	Mean	Description	Interpretation	Mean	Interpretation
1. Poor communications and collaboration with students, staff and colleagues	3.04	Fairly Likely To Occur	High	2.88	Fairly Acceptable
2. Difficulty towards discussing complex materials/lectures	2.78	Fairly Likely To Occur	High	2.75	Fairly Acceptable
3. Difficulty of distribution of course information	2.86	Fairly Likely To Occur	High	2.75	Fairly Acceptable
4. Absence of online classrooms and/or IP video services	2.83	Fairly Likely To Occur	High	2.78	Fairly Acceptable
5. Substandard learning objects and media presentation	2.84	Fairly Likely To Occur	High	2.92	Fairly Acceptable
6. Absence of motivating lecture video capture and web posting	2.81	Fairly Likely To Occur	High	2.92	Fairly Acceptable
7. Difficulty of recording of student grades	2.82	Fairly Likely To Occur	High	2.90	Fairly Acceptable
8. Absence of online faculty activity reports	2.82	Fairly Likely To Occur	High	2.82	Fairly Acceptable
9. Lack of information towards faculty profiles	2.78	Fairly Likely To Occur	High	2.81	Fairly Acceptable
10. No collaboration tools for research and teaching	2.68	Fairly Likely To Occur	High	2.88	Fairly Acceptable
Average Mean Score	2.82	Fairly Likely To Occur	High	2.84	Fairly Acceptable

Legend:

Level of Risk			
Unlikely To Occur 1	**Likely To Occur 2**	**Fairly Likely To Occur 3**	**Very Likely To Occur 4**
Low 1.0 – 1.75	**Medium 1.76 – 2.50**	**High 2.51 – 3.25**	**Very High 3.26 – 4.0**
Level of Tolerability			

Tolerable 1.0 – 1.75	Acceptable 1.76 – 2.50	Fairly Acceptable 2.51 – 3.25	Untolerable 3.26 – 4.0
1% chances of occurrence may result to minor impact on services – affecting a specific department services only, it is Tolerable: Treat the risk (by preparing a contingency plan)	50% chances of occurrence may result to significant impact on services and is Acceptable however actions should be taken to reduce risks so that they become acceptable	75% chances of occurrence may result to severe impact on some (but not all) services and is Fairly Acceptable in some degrees but must be treated seriously by taking action immediately.	100% Chances of Occurrence may result to severe impact on all services and is untolerable and must be terminated.

The respondents believed that the level of tolerability was fairly acceptable and must be taken seriously. SUC C must be encouraged to increase the prominence of their IT by including in their yearly budget in purchasing additional computers, LCD projectors, laptops and internet access to establish and strengthen linkages among faculties of other departments and improve classroom lecture and discussion.

Table 9. shows that in the absence of IT the level of risk in the absence of IT in the Faculty Services Section is High in SUC D.

It implies that there will be 75% chances that may result to severe impact on some of the services of the said section. The respondents believed that the lack of prominence in IT will fairly likely to absence of online classrooms and/or IP video services. There will be no collaboration tools for research and teaching and, absence of motivating lecture video capture and web posting will also be experienced.

This implies that SUC D faculty will have difficulties collaborating with other faculties and colleagues towards meeting the educational needs of the students. IT poses all the advantages towards establishing an online classroom video service, so that even students are at home and they will be able to access lectures and discussion online. Video services allow in depth discussion of complex topics especially for health related courses and science majors in SUC D.

Table 9. Level of Risk in IT on Faculty Services at SUC D

Absence of IT towards providing Faculty Services will result to:	Level of Risk			Tolerability	
	Mean	Description	Interpretation	Mean	Interpretation
1. Poor communications and collaboration with students, staff and colleagues	2.38	Likely To Occur	Medium	2.47	Acceptable
2. Difficulty towards discussing complex materials/lectures	2.39	Likely To Occur	Medium	2.35	Acceptable

3.	Difficulty of distribution of course information	2.31	Likely To Occur	Medium	2.39	Acceptable
4.	Absence of online classrooms and/or IP video services	2.87	Fairly Likely To Occur	High	2.58	Fairly Acceptable
5.	Substandard learning objects and media presentation	2.61	Fairly Likely To Occur	High	2.58	Fairly Acceptable
6.	Absence of motivating lecture video capture and web posting	2.74	Fairly Likely To Occur	High	2.64	Fairly Acceptable
7.	Difficulty of recording of student grades	2.26	Fairly Likely To Occur	High	2.56	Fairly Acceptable
8.	Absence of online faculty activity reports	2.55	Fairly Likely To Occur	High	2.63	Fairly Acceptable
9.	Lack of information towards faculty profiles	2.39	Fairly Likely To Occur	High	2.61	Fairly Acceptable
10.	No collaboration tools for research and teaching	2.83	Fairly Likely To Occur	High	2.70	Fairly Acceptable
	Average Mean Score	2.53	Fairly Likely To Occur	High	2.55	Fairly Acceptable

Legend:

Level of Risk			
Unlikely To Occur 1	**Likely To Occur 2**	**Fairly Likely To Occur 3**	**Very Likely To Occur 4**
Low 1.0 – 1.75	**Medium 1.76 – 2.50**	**High 2.51 – 3.25**	**Very High 3.26 – 4.0**
Level of Tolerability			
Tolerable 1.0 – 1.75	**Acceptable 1.76 – 2.50**	**Fairly Acceptable 2.51 – 3.25**	**Untolerable 3.26 – 4.0**
1% chances of occurrence may result to minor impact on services – affecting a specific department services only, it is Tolerable: Treat the risk (by preparing a contingency plan)	50% chances of occurrence may result to significant impact on services and is Acceptable however actions should be taken to reduce risks so that they become acceptable	75% chances of occurrence may result to severe impact on some (but not all) services and is Fairly Acceptable in some degrees but must be treated seriously by taking action immediately.	100% Chances of Occurrence may result to severe impact on all services and is untolerable and must be terminated.

Hence, the respondents believed that the level of tolerability was fairly acceptable but must take this risk seriously and manage the identified risk immediately by planning ahead. It is suggested that IT to be included

in their yearly budget to improve their IT systems by purchasing additional computers, LCD projectors, laptops for teacher and internet access. Wifi zones may also be considered.

According to Katz et al. (2008), the significance of information technology (IT) in higher education institutions (HEIs) lies in its ability to enhance communication and collaboration among students, staff, and colleagues. IT enables the efficient distribution of course-related information and supports various functionalities such as online classrooms, IP video services, learning objects, on-demand media access, capturing and posting of lecture videos, recording student grades, generating online faculty activity reports, establishing faculty profile websites, maintaining faculty databases, facilitating online review, promotion, and tenure (RPT) processes, aiding in locating researchers, providing online collaboration tools for research and teaching, supporting computational research, enabling data storage, assisting with classroom scheduling, offering IT-supported classrooms, and providing a dedicated faculty portal. These innovations have the potential to significantly improve the overall quality of faculty services.

Conclusions and Recommendations

It was concluded that the context, input, process, and product evaluation model has a strong orientation to improve the services of the student service section, faculty service section, it calls for evaluators to look into possible risks that may cause problems in their key areas among SUCs. The intended recipients clearly articulate their requirements to improve classroom instructions, gather pertinent information for designing responsive projects and other services, evaluate and provide guidance for the successful implementation of IT integration, and ultimately assess the value, importance, and integrity of the services provided. It was concluded that IT plays a vital role in the different service areas among HEIs, it has become an essential element to make services faster, more efficient and less defaults. Furthermore, IT has become part of the SUCs workforce as IT was proven useful and cost effective in all service areas. In this study, it was concluded that the unique features of the CIPP evaluation model and the need for a systematic comprehensive guiding framework for managing risk on service areas among SUCs in the use of IT was strong. The ever growing need to manage these risks has become vital to improve the delivery of services among SUCs as these may protect the identity of the HEIs and may improve enrollment rates in the future.

Base on the findings of the study, the following recommendation were suggested base on the need to improve services among SUCs with the use of IT. Based on the data, **i**t is recommended that SUC A must increase their prominence in IT and ascertain that yearly budget for upgrading the IT system must be part of their yearly agenda/plan to prevent problems on accessing course materials and/or management systems such as plotting class schedules, longer waiting hours and being able utilized video lectures. Moreover, it is recommended that SUC A must strengthen their General Information System (GIS) to prevent problems on owning substandard learning objects and media presentation, lecture video capture and online faculty activity reports and information.

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