



ADOPTION OF ACCREDITATION DATA MANAGEMENT SYSTEM IN THE CONTEXT OF HIGHER EDUCATION

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Abstract. This study evaluates faculty perceptions of an accreditation data management system, focusing on its usability, functionality, and impact on productivity. The evaluation encompasses various indicators such as data management integrity, interface design, cloud storage capabilities, disaster recovery, and reporting functionalities. Faculty members expressed high satisfaction with the system. Particularly notable are the positive perceptions of cloud storage for data backup and disaster recovery, which are crucial for institutional resilience and data accessibility. The system's ability to enhance productivity and work efficiency is also strongly endorsed. Regression analysis identifies file maintenance as a significant positive factor influencing perceived usefulness (t Stat = 4.821, P-value = 0.040), while other factors like information storage, usability, and system functions did not show statistically significant effects. These findings suggest that while the system is effective and well-received overall, further improvements in information storage and usability could enhance user satisfaction and system efficiency. This study underscores the importance of robust file maintenance and comprehensive reporting in data management systems to meet faculty needs and support academic and administrative functions effectively.

Keywords: Accreditation management system, faculty perceptions, usability, functionality

The emergence of new technologies has brought about significant shifts in the way we live our lives today. For instance, technology has opened up previously unimaginable avenues for employees, faculty, staff, and undergraduates to engage in paperless information and communication as a mode of conducting institutional or organizational operations. According to Qi et al. (2021) technology is essential because its applications may be found in every facet of modern society. In addition, our reliance on technology continues to grow with each passing day, whether it be for the sake of communication or transportation, or the pursuit of any information or even entertainment (Abeyratne, 2020).

Another way in which technology has been impact on society is by having made it feasible in different parts of the world to communicate with one another extremely fast. According to Vahdat et al. (2020) technology makes a substantial contribution to the ease of accessing and acquiring information. In addition, Gupta et al. (2021) underlined that organizations have been able to significantly boost their levels of productivity and efficiency as a direct result of the increased usage of technology in the workplace. With the use of digital tools, programs, and systems, procedures that were before carried out manually and took a significant amount of time may now be completed in a way that is both speedy and effective. Further, the concept of a workplace has shifted from that of a physical location, complete with offices, conference rooms, and desk phones, to technological environment that is always linked and provides employees with instant access to information (Ghobakhloo & Fathi, 2020).

Moreover, given the advancement of technology, paperless environment becomes a huge shift in terms of sharing information, evaluation and communication (Senyo et al., 2021). This means that information can be stored and retrieved through the digital medium instead of paper. For instance, communication is now via emails, online chat and instant messaging that helps in creating the paperless environment (Behera & Sakar, 2020). Bystrom (2023) stated that the idea of an entirely paperless office has existed since personal computers became the basis of the modern workplace. However, despite the prevalence of electronic documents and email, most organizations still rely on paper documents.

In higher education, email, websites for coursework, LMS, and chat rooms on computers are all ways that makes educational programs run more efficiently through technology (Yusuf, 2021). Koffer (2015) underlined that getting the digital workplace transition right is essential for the long-term survival of a firm and will lead to more productivity, mobility, and a reduction in stress levels. Mack et al. (2001)



noted that digital workplace is widely acknowledged as an important organizational asset for optimizing knowledge worker productivity. Moreover, digital workplace provides employees greater work-life balance while increasing productivity and agility for the organization. Previous research by (El Sawy et al., 2020) shows that a digital workplace can generate more useful insights and long-term strategic planning, which can increase executives' ability to make decisions in the present moment. For example, despite the disruptions it brought in many spheres of life, the pandemic has created opportunities for improvement and innovation in higher education. Instructors were prompted to use new methodologies while conducting their educational programs and curriculum, and experienced use of virtual technologies in their teaching (Camilleri, 2021). Academic collaboration, acquiring additional digital skills and integration of blended learning can be counted as other advantages brought by the pandemic (Longhurst et al., 2020).

Given the relevance of technology in higher education, however, exploring the application of technology-based system in assuring quality and maintaining compliance during accreditation has been critical considerations that requires change and technology adaption in higher education institutions. Although universities have made every effort to continue improving productivity during accreditation, yet they had to encounter several challenges. Both Castro (2013) and Staub (2019) assert that the accreditation procedure is a time-consuming and laborious one. Not just those individuals who are participating in the program that is being evaluated, but the entire institution, is involved in the process of obtaining accreditation. It is a laborious process for the various components of the university business to prepare the necessary documentation. In order for a program to be accredited, it is necessary to hold a series of sessions at which participants must identify and debate the program's prospects, threats, strengths, and flaws. Participation is required from the students, as well as the administration, instructors, and staff. Participation on its alone might not be sufficient. They have a responsibility to comprehend the quality level that has been established. They need to be informed of the procedures that are followed in order to maintain these quality accreditation criteria. They must, above all else, have an understanding of their roles in the process of meeting and maintaining these standards. The actual certification procedure seems to sap the enthusiasm of those who are involved in it, both during the preparatory phase and throughout the process itself. It was quite difficult to make any changes to the documents. One possible explanation for this is that the faculty views documentation as an extremely time-consuming and difficult task that is virtually impossible to complete (Castro, 2013). According to the findings of a study carried out by Staub (2019), some school administrators and faculties see accreditation as little more than compliance. Some educators are even skeptical regarding the significance of certification due to the fact that, in their eyes, this is merely an additional responsibility to their already extensive list of responsibilities as classroom teachers. As a result, when it comes time for the subsequent phase of accreditation, the individuals involved once again rush to beat the deadline in order to ensure that they meet the requirements for accreditation. Empirical findings of Ignacio-Flores suggested that most of the institution experienced problem in gathering of documents for accreditation.

In the present, the advanced information technology resulted in the use computerized database systems that enables documentation and presentation more digital and accessible. Teachers and students have benefited from using educational technologies since integrating these advancements in their classroom setting creates interest in using and learning the technology (Ramey, 2013). The traditional accreditation process which utilized printed documents and outputs for presentations make the process more tedious. The idea of creating digital data documentation will make the finding of data easier, presentation will be organized and faster in terms of time and process will be more effective (Rosiska, 2020). In Cebu Technological University, challenges were also experienced by faculties during accreditation, such as considers being a very laborious task, just an addition to the many tasks that they are already engaged with as faculty and cramming to beat the deadline. Accreditation is operationally defined by Accrediting Agency of Chartered Colleges and Universities of the Philippines, Inc. (AACUP) (Corpus & Ngohayon, 2012) as a process by which an institution at the tertiary level evaluates its educational activities, in whole or in part, and seeks an independent judgment to confirm that it substantially achieves its objectives and is generally equal in quality to comparable institutions. Despite these crucial insights from the literature, integrating technology (i.e., accreditation data management with the support of cloud storage) during accreditation in CTU is scarce. Thus, this work bridges such a gap by offering intervention by using technology-based data management during the accreditation.

Methodology

In this study, the researchers employed a descriptive-correlation research method to assess the acceptability of the accreditation data management system at Cebu Technological Main-Campus. To collect data, they designed and distributed sets of questionnaires, which are instrumental in capturing the perceptions and experiences of the faculty members involved in preparing accreditation documents. The questionnaires used were adapted from Abu-Dalbouh's 2013 study, which utilized the Technology Acceptance Model (TAM) to explore user acceptance of mobile technologies. This adaptation allowed the researchers to apply a proven framework to assess technology acceptance in an educational setting. The study incorporated three different sets of research instruments to ensure a comprehensive evaluation of the system's acceptability. Data collected through these instruments were analyzed using statistical software, with a significance level set at 0.05. The findings from this analysis are intended to provide a solid foundation for enhancing the accreditation data management system, ultimately supporting faculty members more effectively in their accreditation preparation efforts.

Results and Discussion

Table 1. Functions of Accreditation Data Management

Indicators	Faculty	
	Mean	Verbal Descripton D
The data management is free of broken links and missing images.	4	A
Viewing and uploading of files is not populated with advertisement and pop- up.	4.11	A
The interface of this system is pleasant.	4.30	SA
This system has all the functions and capabilities I expect it to have	4.05	A
Grand Mean	4.11	A

Table 1 presents the data in terms of the development of accreditation data management in terms of its functions. Data showed that the statement refers to the interface of this system is pleasant got the highest weighted mean of 4.30 which verbally described as strongly acceptable, while the statement refers to the data management is free of broken links and missing images got the lowest weight mean of 4.0 which verbally described as acceptable. Overall, the development in terms of functions garnered a total weighted mean of 4.11 which verbally describe as acceptable. This indicates that faculty place high importance on the functionality and user-friendliness of accreditation data management systems, while also valuing the absence of technical issues and pop-ups.

Table 2. Process of Storing Information of Accreditation Data Management

Indicators	Faculty	
	Mean	VD
Data backup through Cloud Storage or through saving files to a digital folder such as Google Drive or using block storage.	4.35	SA
Ability to archive old data has become an important aspect of Cloud Storage, as accreditation move to digitize records, as well as hold on to records for governance and compliance purposes.	4.78	SA
The data management system allows for disaster recovery so that organizations can continue with their business, even when times are tough.	4.38	SA
The data management makes digital data immediately available for evaluators, data becomes much more useful on an ongoing basis.	4.05	A
Ability to save copies of media data, such as large audio and video files, on servers dispersed across the institution or in the Philippines.	4.29	SA
Grand Mean	4.37	SA

Table 2 presents the data in terms of the development of accreditation data management in terms of process of storing information. Data showed that the statement refers to ability to archive old data has become an important aspect of cloud Storage, as accreditation move to digitize records, as well as hold on to records for governance and compliance purposes got the highest weighted mean of 4.78 which verbally described as strongly acceptable, while the statement refers to the data management makes digital data immediately available for evaluators, data becomes much more useful on an ongoing basis got the lowest weight mean of 4.5 which verbally described as acceptable. Overall, the development in terms of process of storing information garnered a total weighted mean of 4.37 which verbally describe as strongly acceptable. This indicates that faculty consider data backup, archiving, disaster recovery, and media data storage to be essential components of accreditation data management

Table 3. File Maintenance of Accreditation Data Management

Indicators	Faculty	
	Mean	VD
The system provides input validation checks (checking that the information has been keyed in correctly).	4.35	SA
The system prevents an account from being deleted whilst it is still active.	4.35	SA
Reports available for users to identify all master file changes.	4.43	SA
Reports be invoked which identify the fields which have been modified	4.16	A
Reports provide a complete record of all such changes	4	A
Grand Mean	4	SA

Table 3 presents the data in terms of the development of accreditation data management in terms of file maintenance. Data showed that the statement refers to reports available for users to identify all master file changes got the highest weighted mean of 4.43 which verbally described as strongly acceptable, while the statement refers to reports provide a complete record of all such changes got the lowest weight mean of 4 which verbally described as acceptable. Overall, the development in terms of file maintenance garnered a total weighted mean of 4.26 which verbally describe as strongly acceptable. This indicates that faculty consider input validation checks, account deletion prevention, and comprehensive reporting to be essential components of accreditation data management file maintenance.

Table 4. Usability of Accreditation Data Management

Indicators	Faculty	
	Mean	VD
I can effectively complete my work using this system	4.60	SA
I am able to complete my work quickly using this system	4.22	SA
I am able to efficiently complete my work using this system	4.89	SA
I feel comfortable using this system	4.70	SA
I believe I became productive quickly using this system	4.22	SA
Grand Mean	4.51	SA

Table 4 presents the data in terms of the development of accreditation data management in terms of usability. Data showed that the statement refers to I am able to efficiently complete my work using this system got the highest weighted mean of 4.89 which verbally described as strongly acceptable, while the statement refers to, I am able to complete my work quickly using this system and I believe I became productive quickly using this system got the lowest weight mean of 4.22 which also verbally described as strongly acceptable. Overall, the development in terms of usability garnered a total weighted mean of 4.51 which verbally describe as strongly acceptable. This indicates that faculty members find the system to be highly effective in helping them complete their work. Overall, this table suggests that faculty members perceive the accreditation data management system to be a highly usable tool that supports their work effectively.

Table 5. Perceived Usefulness

Perceived Usefulness	Faculty	
	Mean	VD
Using accreditation data management will increase my productivity	4.78	HA
Using accreditation data management will increase my productivity	5	HA
Accreditation data management will enable Faculties to get the information very quickly.	4.87	HA
Accreditation data management will enable Faculties to get the information very quickly.	4.51	HA
Using accreditation data management will enable me to accomplish transactions more quickly.	4.25	HA
Grand Mean	4.68	HA

Table 5 presents the data in terms of perceived usefulness. The survey responses for perceived usefulness of the Accreditation Data Management system suggest that users perceive the system to be highly useful in enhancing their productivity and effectiveness. The grand mean score of 4.68 indicates a positive overall perception of the system's usefulness. The specific ratings for each question suggest that users expect the system to provide quick access to information and help them to accomplish tasks more quickly. The high rating for enhancing effectiveness suggests that users believe that the system can help them to achieve their goals more efficiently and effectively. However, the rating for "using accreditation data management will enable me to accomplish transactions more quickly" is slightly lower, which may indicate that there are some aspects of the system that could be improved to better meet the needs of users in completing transactions. Overall, the high ratings for perceived usefulness suggest that the Accreditation Data Management system is meeting the needs of its users effectively and providing tangible benefits in terms of increased productivity and effectiveness. It is important to continue monitoring user feedback and incorporating their suggestions and input into ongoing system development efforts, to ensure that the system remains useful and relevant to users over time.

Table 6. Perceived Ease of Use

Perceive Ease of Use	Faculty	
	Mean	VD
Learning to operate the accreditation data management would be ease for me.	4.73	HA
My interaction with accreditation data management would be clear and understandable.	4.76	HA
Learning to operate the accreditation data management is easy for me.	4.70	HA
I would find accreditation data management to be flexible to interact with.	4.49	HA
It would be easy for me to become skillful at accreditation data management.	4.46	HA
Grand Mean	4.62	HA

Based on the Data. The survey responses for perceived ease of use of the Accreditation Data Management system suggest that users find the system to be easy to learn and operate. The grand mean score of 4.62 indicates a positive overall perception of the system's ease of use. The specific ratings for each question suggest that users find the system to be clear, understandable, and easy to learn. These ratings are important, as ease of use is a critical factor in user adoption and ongoing use of a system. The high rating for learning to operate the system suggests that users believe that they can quickly become proficient with the system, which can further encourage adoption and use. The rating for flexibility is slightly lower, but still relatively high, indicating that users find the system to be flexible enough for their needs, though there may be some room for improvement in this area. This can be an important factor in encouraging ongoing use of the system, as users are more likely to continue using a system if they perceive that it is flexible enough to meet their changing needs over time. Overall, the high ratings for perceived ease of use suggest that the Accreditation Data Management system is well-designed and intuitive, and meets the needs of its users effectively. It is important to continue monitoring user feedback and incorporating their suggestions and input into ongoing system development efforts, to ensure that the system remains easy to use and intuitive over time.

Table 7. Significant Relationship between Status of Development and Perceived Usefulness of Accreditation data management

R squared=0.499618					
	Coefficients	Standard Error	t Stat	P-value	Remarks
Process of Storing of Information	-0.58771	0.490514	-1.19816	0.353582	NS
File Maintenance	1.82144	0.37780544	4.821122	0.0404319	S
Usability	-0.30191	0.21307444	-1.41697	0.2922060	NS
Functions	-0.41630	0.38831404	-1.07209	0.3958870	NS

Table 7 shows the results of a analysis that examines the relationship between the status of development of the accreditation data management system and its perceived usefulness. The R-squared value of 0.499618 indicates that about 50% of the variation in perceived usefulness can be explained by the variables in the model. The coefficients in the table show the strength and direction of the relationship between each variable and perceived usefulness. A positive coefficient indicates a positive relationship, while a negative coefficient indicates a negative relationship. The results show that only one variable, "File Maintenance," has a statistically significant positive relationship with perceived usefulness (P-value=0.0404319). This suggests that faculty members perceive the data management system as more useful when it has a well-maintained file system. The other variables in the model, "Process of Storing of Information," "Usability," and "Functions," do not have a statistically significant relationship with perceived usefulness (P-values>0.05). This means that faculty members do not perceive the data management system as more or less useful based on these variables. Overall, the results suggest that the file maintenance aspect of the system is an important factor in determining its perceived usefulness. This information can be used to improve the development and design of the accreditation data management system to increase its usefulness and ultimately improve the accreditation process.

Table 8. Significant Relationship between Status of Development and Perceived ease of use of Accreditation data management

R squared= 0.499742					
	Coefficients	Standard Error	t Stat	P-value	Remarks
Process of Storing of Information	0.444966	0.362047	1.229031	0.34404	NS
File Maintenance	1.036289	0.2934	3.532003	0.071651	NS
Usability	-0.21271	0.165471	-1.28546	0.327382	NS
Functions	0.287188	0.301561	0.952339	0.441436	NS

Based on the coefficients and p-values in Table 8, we can see that the status of development variables has varying degrees of significant relationships with the perceived ease of use of the Accreditation data management system. The coefficient for the "File Maintenance" variable is 1.036289 with a p-value of 0.071651, which indicates that there is a significant positive relationship between the level of development of file maintenance features and the perceived ease of use of the system, but it is only marginally significant at the 0.05 level. On the other hand, the coefficients for the "Process of Storing of Information," "Usability," and "Functions" variables have p-values that are not significant at the 0.05 level. Therefore, there is not enough evidence to conclude that these variables have a significant relationship with the perceived ease of use of the system. Overall, the R squared value of 0.499742 suggests that the status of development variables explain roughly half of the variance in the perceived ease of use of the Accreditation data management system.

Discussion

The evaluation of the accreditation data management system by faculty members reveals a generally positive reception across various indicators. The system's data management, free from broken links and



missing images, and its interface, which is described as pleasant, both received high ratings, indicating satisfaction with its usability and functionality. Cloud storage capabilities, including data backup and disaster recovery, are particularly well-regarded, emphasizing the importance of these features for institutional resilience and accessibility. The system's ability to provide thorough and timely reports is also valued, showcasing its effectiveness in maintaining comprehensive records. When it comes to the system's impact on work efficiency, faculty members strongly agree that it enhances productivity, comfort, and speed in task completion (Grand Mean = 4.51). Similarly, the perceived usefulness of the system is rated highly, with faculty members agreeing that it significantly boosts productivity and transaction speed. The ease of use is also favorably noted, suggesting that faculty find the system intuitive and easy to learn. However, the regression analysis indicates that only the process of file maintenance shows a significant positive effect on the perceived usefulness (t Stat = 4.821, P -value = 0.040), while other factors such as the process of storing information, usability, and functions did not show statistically significant effects. This underscores the critical role of effective file maintenance in user satisfaction and the perceived value of the system, while suggesting areas for potential improvement in other functionalities to enhance overall usability and efficiency.

Conclusion

In conclusion, the accreditation data management system is highly regarded by faculty members for its usability, functionality, and positive impact on productivity. Key features such as cloud storage, disaster recovery, and comprehensive reporting are particularly appreciated, contributing to a strong overall satisfaction. While file maintenance significantly enhances perceived usefulness, other areas such as information storage, usability, and system functions show room for improvement. These insights suggest that while the system is effective and well-received, further enhancements could optimize its overall efficiency and user experience.

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