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Technology Readiness as Influenced by Library Culture, Organizational Learning Capability, and Futures Consciousness of Librarians: A Structural Equation Model

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***Abstract*—** The study aimed to assess the level of library culture, organizational learning capability, futures consciousness, and technology readiness among librarians in Region XI. Additionally, the research aimed to determine the best-fit model for technology readiness in the context of librarians. A survey was conducted to a total of 330 librarians, selected using stratified random sampling technique. The data underwent analysis with descriptive and statistical techniques such as means, Pearson's Product-moment Correlation Analysis, Multiple Linear Regression Analysis, and Structural Equation Model. The study's findings indicate that librarians exhibited a very high degree of library culture, organizational learning capability, futures consciousness, and technology readiness. The endogenous variable, technology readiness, was found to be correlated with three exogenous variables: library culture, organizational learning capability, and futures consciousness. When regressed, the two exogenous variables, organizational learning capability and futures consciousness, were found to influence the technology readiness both independently and aggregately. While the other exogenous variable, library culture, does not influence the technology readiness of librarians at all. Model 3 revealed to be the best fit for technology readiness with library culture, organizational learning capability, and futures consciousness as latent and observable variables.

***Keywords*—** futures consciousness, librarians, library culture, library management, organizational learning capability, structural equation model, technology readiness.

INTRODUCTION

Today's world has seen great changes in the way libraries operate. The problem of technology readiness (TR) among librarians has received considerable critical attention. The fast-paced technological advancements and increasing complexity in technology are major sources of stress for librarians, making it difficult for them to adjust and function effectively in a continuously changing digital environment (Adil et al., 2025). In Nigeria, the level of librarian's technological readiness for providing effective and efficient information service to users is of great concern to most scholars and researchers (Tunmibi & Okuonghae, 2023).

On one hand, one of the current issues with library automation and digitization is the lack of pedagogical preparation or technological readiness among librarians. Despite the significant advantages these technologies could bring to library operations, university libraries in Nigeria are still unprepared to implement them (Owolabi et al., 2022). This issue was affirmed by Saibakumo (2021) stating that neglecting the said problem leads to impairment in providing services or help to students. Consequently, the study of Kehinde et al. (2022) revealed that librarian believe that the adoption of technologies may cost them their jobs, hence making them resistant towards technology readiness. Moreover, insufficient technological readiness seems to create a risk for librarians because of the lack of funding from the management for trainings, leaving them to finance themselves for educational development (Spurava et al., 2021).

More so, one of the most significant current discussions on the technology readiness of librarians is the library culture (Dimmock et al., 2021). The library culture is observed as a key aspect of the school that enhances and gives meaning to various activities of the school. Library culture is defined as the common values and beliefs, the signs and symbols, and the understanding shared among the members of an organization (Chalmers et al., 2025). Inherently, culture does not want to be changed, and resistance to change will make organizational culture more difficult (Naveed et al., 2022). Therefore, to satisfy individual goals and foster a pleasant culture, administrators should strengthen employee commitment to the organization (Jahan et al., 2022).

Whereas, the organizational learning capability is defined as a change in the organization's knowledge base that occurs due to past experience. It is related to how librarians upgrade their technology readiness since they depend on the initiatives made to learn that have been demanded by the parent institution. With the complexity and rapid change in the organizational, technological, and informational environments, librarians' jobs have been more challenging today (Espejo & Flores, 2021). The study of Akwaowo and Kalio (2021) emphasized that learning must be embedded within an organization's core philosophy, values, and culture. Only through this integration can the organization effectively prepare for and respond to future challenges. Consequently, Smith and Cook (2022) highlighted that the library's ability to foster organizational learning was hindered by institutional constraints and external demands. The absence of a structured professional development system made it difficult for librarians and paraprofessionals to keep their skills current, particularly in adapting to evolving digital tools and database functionalities. Moreover, the library failed to leverage and disseminate the specialized expertise of its staff. Already burdened with heavy workloads, employees had little time or support for additional responsibilities or training. This resulted in unequal access to development opportunities and a decline in overall technology readiness among library personnel.

Meanwhile, academic librarians' futures consciousness significantly impacts technology readiness. The futures consciousness of librarians will be seeing adapting to accommodate new applications of technology for learning, research, and information which requires technology readiness (Siddiqui, 2025). Many librarians lack the necessary digital skills and support to meet these demands effectively. The push to adopt tools like artificial intelligence, big data analytics, and machine learning is often undermined by limited training and institutional readiness. As a result, libraries risk falling short in delivering efficient, modern services. If these challenges persist, the future of libraries may be marked by declining relevance, reduced user engagement, and an inability to adapt to evolving information needs (Cox & Mazumdar, 2024). Without adequate training, infrastructure, or future-oriented planning, many libraries struggle to adapt. This lack of futures consciousness, anticipating and preparing for long-term changes, risks leaving libraries behind as user needs and technologies continue to evolve (Rajkumar et al., 2024).

Basically, very little is currently known about the combined influence of library culture, organizational learning capability, and futures consciousness on the technology readiness of librarians, filling the existing gap identified in the literature review and have not yet come across a single study involving the four variables.

The study focused on the technology readiness of librarians in Region XI. Specifically, it sought to answer the following objectives: first, to ascertain the level of a library culture as perceived by librarians in terms of: professional values, emphasis on learning, collegiality, collaboration, shared planning, and transformational leadership. Secondly, to know the level of organizational learning capability among librarians in terms of: managerial commitment and power, experimentation, risk taking, openness and interaction with the external environment, and knowledge transfer and integration. Third, to describe the level of futures consciousness of librarians in terms of: time perspective, agency beliefs, openness to alternatives, systems perception, and concern for others. Fourth, to assess the level of technology readiness of librarians in terms of: optimism, innovativeness, discomfort, insecurity, perceived ease of use, perceived usefulness, user intention, and decision maker. Fifth, to determine the significant relationship between: library culture and technology readiness of librarians, organizational learning capability and technology readiness of librarians, and futures consciousness and technology readiness of librarians. Sixth, to determine which exogenous variable/s significantly influence the technology readiness of librarians. Lastly, to identify the model that best fits the technology readiness of librarians in Region XI.

Moreover, the following null hypotheses were tested at a 0.05 level of significance: first, there is no significant relationship between: library culture and technology readiness, organizational learning capability and technology readiness, and futures consciousness and technology readiness. Secondly, library culture, organizational learning capability and futures consciousness do not significantly influence technology readiness. Lastly, no best fit model predicts technology readiness.

This research supports the Sustainable Development Goal (SDG) Number 8, which promotes full and productive employment and decent work for all. Hence, HR practices like lifelong learning through professional development define the career path of its employees.

The working culture here encourages innovative thinking and employee's empowerment to meet the ever-growing customer demands and expectations (Khalique et al., 2021).

Conducting this study would also support Sustainable Development Goal (SDG) Number 9 which fosters innovation. Sustained investment in infrastructure and innovation are crucial drivers of economic growth and development. The innovation activity of enterprises, when their sustainable development is maintained, involves not only the release of new products or services, but also constant changes within the organization (Kufeoglu, 2022).

METHODS

This section presented the research method and procedure employed in the study, including the research respondent, materials and instrument, and design and procedure.

Research Respondents

This study surveyed 300 librarians, but before it was carried out, a sample of 30 librarians were chosen randomly to participate in pilot testing to ensure the reliability of the survey instruments. All in all, there were 330 librarians who answered the poll. Some were excluded since they failed to qualify for the established inclusion criteria, and some were not able to participate in the survey due to some personal reasons. The study commenced in the early months of 2025.

This research utilized a stratified sampling technique to ensure that the sample size taken is sufficient and tantamount to the equal representation of all target respondents and that it would not compromise the reliability of its findings. The population was stratified into diverse strata, based on some communal features to guarantee each stratum in the sample and to make inferences about specific population subgroups (Bisht, 2024).

The researcher utilized set of standards as inclusion criteria, to wit: first, a respondent must be a licensed librarian in Region XI, regardless of the type of organization they are in; second, respondents must have at least one year of work experience in the library. Respondents who are library staff or paraprofessional are excluded from this study.

Since this research focuses on Region XI as a whole, the researcher included all organizations in the area that has librarians in Davao Occidental, del Sur, de Oro, Oriental, and Norte. In addition, participants in this study were given the freedom to choose whether they wanted to take part in the research without fear of any kind of punishment or repercussion. They were also assured that they would not be forced or compelled to answer any of the questions, even if they experienced some level of unease in response to the inquiries posed in the questionnaire. Finally, participants were informed that they could leave the research at any time and at considerations used in the study.

Materials and Instrument

The formulation of all four instruments used in the study was based on the research objectives, establishing a solid foundation for the research. Certain research instruments in this study were standardized instruments that may be downloaded online. The questionnaires also underwent modifications to ensure their sustainability within the present local environment. The components of the questionnaire in this study were formulated in a favorable manner and were given prominence using the Likert scale. The study's variables encompassed four distinct areas, namely library culture, organizational learning capability, futures consciousness, and technology readiness, each of which was examined separately.

The researcher preceded the following steps and procedures in data collection: First, the researcher secured a permission letter for the conduct of the study from the Dean of the Professional Schools as proof that the University of Mindanao officially acknowledged the research. Following approval from the Dean to conduct the study, survey questionnaires were administered, or an email/message via Google Form with questions were sent to the study respondents.

The instrument underwent a validation by six industry professionals to ensure its relevance in contemporary times. Said instrument garnered an overall mean rating of 4.66 which can be interpreted as excellent. Following the completion of the validation process, the researcher proceeded to the pilot testing phase. During this phase, the researcher employed the Cronbach's Alpha Coefficient to assess the reliability of each variable. In the event that the outcomes of the pilot test yielded affirmative results, the researcher would proceed with the implementation of an extensive study survey.

In part one of the questionnaire, a standardized instrument on school culture, originally adapted from Narayan (2016), was used. However, instead of focusing

on school culture, the questionnaire was modified to focus on library culture to better align with the study's objectives. Indicators such as professional values, emphasis on learning, collegiality, collaboration, shared planning, and transformational leadership were included in it. The Cronbach's Alpha Coefficient is .946, which suggests that the set of items has an excellent internal consistency.

In part two, the questionnaire on organizational learning capability was adapted from Tohidi et al. (2012). It comprises five indicators, namely: managerial commitment and power (six items), experimentation (four items), risk taking (three items), openness and interaction with the external environment (five items), and knowledge transfer and integration (five items). The Cronbach's Alpha Coefficient is .910, which suggests that the set of items has an excellent internal consistency.

The third set of instruments employed aimed to measure the futures consciousness of librarians in the region. The instrument was adapted and modified from Lalot et al. (2019). There are five indicators for this variable, namely: time perspective (three items), agency beliefs (five items), openness to alternatives (four items), systems perception (three items), and concern for others (five items). The Cronbach's Alpha Coefficient is .837, which suggests that the set of items has a good internal consistency.

Lastly, the questionnaire on technology readiness (TR) was adapted from Buyle et al. (2018). It was composed of indicators: optimism (four items), innovativeness (four items), discomfort (three items), insecurity (three items), perceived ease of use (four items), perceived usefulness (four items), user intention (three items), and decision maker (three items). The Cronbach's Alpha Coefficient is .937, which suggests that the set of items has an excellent internal consistency.

The interpretations of the study participants' retorts were as follows: The range of 4.20-5.00 is classified as "very high", indicating that the measures related to library culture, organizational learning capability, and futures consciousness, are always manifested. The range of 3.40-4.19 is categorized as "high", indicating that these measures are frequently manifested. The range of 2.60-3.39 is considered "moderate", suggesting that these measures are occasionally manifested. The range of 1.80-2.59 is labeled "low", indicating that these measures are rarely manifested. Lastly, the range of 1.00-1.79 is classified as "very low", signifying that these measures are never manifested. Participants were informed that they could leave the research at any time and at considerations used in the study.

Design and Procedure

A descriptive-correlational research design was utilized for this academic investigation. This was utilized for the development and application of mathematical models, theories, and/or hypotheses relevant to a phenomenon. First, descriptive-correlational methodology was employed. As stated by Sirisilla (2023), a descriptive research design involves observing and collecting data on a given topic without attempting to infer cause-and-effect relationships.

In addition, the study used structural equation modeling to determine the best-fit or optimal model for librarians' technology readiness, which would assist the administration of all organizations under their supervision in promoting their professional development. This study investigated the interrelationships between library culture, organizational learning capability, and futures consciousness, and technology readiness among librarians in Region XI.

Structural equation modeling is a statistical technique and method for testing hypotheses about causal effects among observed or proxies for latent variables (Kline, 2023). It can be used to identify relationships between model variables. It is performed in a series of phases. First, a model must be specified. This is the model specification stage. Model identification is the second phase, followed by model estimation. Finally, model testing: if the model is not good enough to pass all the parameters, it must be modified, and the preceding procedures must be repeated (Peugh & Feldon, 2020).

The researcher preceded the following steps and procedures in data collection: First, the researcher secured a permission letter for the conduct of the study from the Dean of the Professional Schools as proof that the University of Mindanao officially acknowledged this research. The letter's content was to ask permission to study the influence of library culture, organizational learning capability and futures consciousness to technology readiness of librarians.

After such, an Informed Consent Form (ICF) was given to the participants and asked permission to be part of the study. It cannot be denied that there were librarians who opted not to participate in the study, but the researcher

explained that all data they have given were handled with maximum confidentiality; thus, consent was granted. Nevertheless, the researcher personally administered the questionnaire to the study participants to ensure 100% retrieval. After the questionnaires were retrieved, they were tallied and recorded accurately. The results were encoded, tabulated, analyzed, interpreted, drawn conclusions, and formulated recommendations based on the results.

Subsequently, the data were analyzed and interpreted using the appropriate statistical tools: First, Mean. This was used to determine the level of library culture, organizational learning capability, futures consciousness, and technology readiness of librarians in Region XI. Second, Pearson Product-Moment Correlation Analysis (Pearson r). This was used to determine if there exists a significant relationship between the independent variables library culture, organizational learning capability, and futures consciousness, and the dependent variable, which is technology readiness (TR). Next, Multiple Regression Analysis. This was employed to reveal the significant predictors of technology readiness of librarians in Region XI. Lastly, Structural Equation Modeling. This was used to explore the best fit model. The essence of the test according to Zyphur et al., (2023) is to ensure the elimination of attributes with low correlations with the attributes of the other latent factors in the final SEM.

The following interpretations were utilized to select the best-fit model. A value of 1 reflects a perfect fit. A value of 0.90 suggests a decent fit, whereas 0.95 implies an outstanding fit (Dash & Paul, 2021). This statistic compares the sample covariance matrix to the null model, which implies that all latent variables are uncorrelated (null/independence model). Distinguishing the best-fit model, all the indices incorporated must constantly fall within acceptable ranges of 0.95 or above. The p-value associated with the chi-squared test should be greater than or equal to 0.05. CMIN/DF between 0 and 2, and a Comparative Fit Index, Normed Fit Index, Tucker-Lewis Index, and Goodness of Fit of greater than 0.95 are all required. The Root Mean Square of Error Approximation (RMSEA) value must be less than 0.05 and its corresponding p-close value must be greater than or equal to 0.05.

The researcher encountered comprehensive ethical requirements while carrying out the study, following the evaluations and structured parameters outlined in the study protocol. These included, but were not limited to the following: Voluntary Participation. All librarians had the right to exercise their free will and participate in this activity without fear of any consequence or sanction. Privacy and Confidentiality. The respondent's private and/or professional information, were kept confidential, and the highest secrecy was maintained regarding the respondent's data. Data collected through Google Forms and face-to-face surveys were securely stored, with both digital and physical safeguards in place. Informed Consent Process. An informed consent form was shown to respondents participating and was made available. Respondents then reviewed the consent form by reading it themselves or had it read to them. The respondents that agreed to be part of the study were asked to sign the informed consent form, and lastly, a non-disclosure agreement was provided. To ascertain the ethical soundness and acceptability of the paper, the researcher added in the appendices the UMERC Certificate bearing its protocol number, 2025-104.

RESULTS AND DISCUSSION

This section presents the results and interpretations of the findings derived from data analyses. Discussions are arranged as follows: the assessment of the level of library culture, organizational learning capability, futures consciousness, and technology readiness among librarians in Region XI; the examination of the correlation between exogenous and endogenous variables in the study; and the investigation of the influence of library culture, organizational learning capability, and futures consciousness on the technology readiness. Finally, generating the best-fit model for predicting the technology readiness among librarians in Region XI.

Level of Library Culture of Librarians in Region XI

The primal objective of this study was to determine the level of library culture of librarians in Region XI. The domains under the first exogenous variable, library culture are measured in terms of professional values, emphasis on learning, collegiality, collaboration, shared planning, and transformational leadership.

Table 1 presents a summary of the comprehensive assessment of the general state of library culture of librarians in Region XI. Results revealed that the data indicated an average rating of 4.44, considered very high. The standard deviation for these scores was calculated to be 0.44. The majority of cases demonstrated the manifestation of library culture. The aforementioned figure was derived from the average scores of 4.48 (very high) for professional values, 4.52

(very high) for emphasis on learning, 4.53 (very high) for collegiality, 4.35 (very high) for collaboration, 4.37 (very high) for shared planning, and 4.37 (very high) for transformational leadership. This trend suggests that while all aspects of library culture are strongly present, librarians place particular importance on collegiality and emphasis on learning, indicating a work environment that values teamwork, professional growth, and shared values.

Table 1
Level of Library Culture of Librarians in Region XI

Indicators	SD	Mean	Descriptive Level
Professional Values	0.52	4.48	Very High
Emphasis of Learning	0.49	4.52	Very High
Collegiality	0.47	4.53	Very High
Collaboration	0.52	4.35	Very High
Shared Planning	0.52	4.37	Very High
Transformational Leadership	0.50	4.37	Very High
Overall	**0.44**	**4.44**	**Very High**

Level of Organizational Learning Capability of Librarians in Region XI

The level of organizational learning capability is presented in Table 2, with the corresponding indicators arranged as is per item in the questionnaire. Each indicator is analyzed and interpreted in a simplified manner to understand the readers better.

Table 2 summarizes the assessment that was undertaken to determine the level of organizational learning capability of librarians in Region XI. Based on the responses provided, the data revealed an average rating of 4.27, suggesting a very high level. The calculated standard deviation for the supplied scores was 0.54. This implies that librarians exhibit actively involve themselves in processes that promote continuous learning within their organizations. The above data was gathered by evaluating numerous indicators such as Managerial Commitment and Engagement (4.25, very high), Experimentation (4.31, very high), Risk Taking (4.13, high), Openness and Interaction (4.28, very high), and Knowledge Transfer (4.39, very high) were the scores for these factors. All organizational learning capability domains experienced very high to high levels. In general, the outcome is advantageous as it merely induces a positive degree of learning capability with an overall mean score of 4.27 or very high.

Table 2
Level of Organizational Learning Capability of Librarians in Region XI

Indicators	SD	Mean	Descriptive Level
Managerial Commitment and Engagement	0.62	4.25	Very High
Experimentation	0.59	4.31	Very High
Risk Taking	0.73	4.13	High
Openness and Interaction	0.58	4.28	Very High
Knowledge Transfer	0.59	4.39	Very High
Overall	**0.54**	**4.27**	**Very High**

Level of Futures Consciousness of Librarians in Region XI

The third aim of this study is to evaluate the level of futures consciousness of librarians in Region XI. Within this last exogenous realm, the following factors are viewed as indicators: time perspective, agency beliefs, openness to alternativeness, systems perception, and concern for others.

Table 3 presents a comprehensive overview of the evaluation conducted to ascertain the extent of futures consciousness of librarians in Region XI. Based on the result, the collected data indicates an average rating of

4.38, indicating an extensive degree (very high) of consciousness. The standard deviation of the given scores was determined to be 0.45. This suggests that the manifestation of futures consciousness among librarians in Region XI is strong and consistent, exhibiting a well-developed awareness and consideration of future trends in their profession.

Table 3
Level of Futures Consciousness of Librarians in Region XI

Indicators	SD	Mean	Descriptive Level
Time Perspective	0.53	4.44	Very High
Agency Beliefs	0.55	4.28	Very High
Openness to Alternativeness	0.54	4.41	Very High
Systems Perception	0.55	4.33	Very High
Concern for Others	0.51	4.43	Very High
Overall	**0.45**	**4.38**	**Very High**

Level of Technology Readiness of Librarians in Region XI

The subsequent objective of this research endeavor is to assess the degree of technology readiness of librarians in Region XI. The indicators within the endogenous domain encompass optimism, innovativeness, discomfort, insecurity, perceived ease of use, perceived usefulness, use intention, and decision maker. Table 4 provides a thorough summary of the evaluation carried out to determine the status of technology readiness of librarians in Region XI. Based on the responses provided, the data obtained reveal an overall rating of 4.27, suggesting an extensive (very high) level of technology readiness of the respondents. The calculated standard deviation for the provided scores was found to be 0.45. Based on the collective findings, it can be inferred that librarians in Region XI demonstrate a strong and consistent preparedness to adopt and utilize technology in their professional roles.

Table 4
Level of Technology Readiness of Librarians in Region XI

Indicators	SD	Mean	Descriptive Level
Optimism	0.53	4.43	Very High
Innovativeness	0.65	4.22	Very High
Discomfort	0.78	4.04	High
Insecurity	0.76	4.18	High
Perceived Ease of Use	0.57	4.27	Very High
Perceived Usefulness	0.53	4.37	Very High
Use Intention	0.52	4.37	Very High
Decision Maker	0.57	4.39	Very High
Overall	**0.45**	**4.27**	**Very High**

Relationship between Library Culture and Technology Readiness of Librarians in Region XI

Shown in Table 5.1 are the results of the test of the relationship between library culture and technology readiness of librarians. As displayed in the hypothesis, the relationship was tested at 0.05 level of significance. The findings of this study revealed that there exists a favorable association between technology readiness (TR) and several elements pertaining to the library culture of librarians within the organization.

Table 5.1
Significance of the Relationship between Library Culture and Technology Readiness

Library Culture	Technology Readiness								
	OPT	INN	DIS	INS	POU	PEU	USI	DEM	Overall
PRV	.399**	.278**	.187**	.209**	.449**	.518**	.498**	.361**	.474**
	.000	.000	.001	.000	.000	.000	.000	.000	.000
EOL	.458**	.286**	.189**	.202**	.441**	.537**	.461**	.362**	.480**
	.000	.000	.001	.000	.000	.000	.000	.000	.000
COL	.472**	.307**	.215**	.250**	.435**	.517**	.506**	.371**	.506**
	.000	.000	.000	.000	.000	.000	.000	.000	.000
COA	.391**	.391**	.380**	.335**	.434**	.463**	.523**	.500**	.577**
	.000	.000	.000	.000	.000	.000	.000	.000	.000
SHP	.376**	.365**	.271**	.308**	.461**	.500**	.505**	.458**	.542**
	.000	.000	.000	.000	.000	.000	.000	.000	.000
TRL	.438**	.403**	.316**	.277**	.416**	.436**	.505**	.486**	.549**
	.000	.000	.000	.000	.000	.000	.000	.000	.000
Overall	**.480****	**.386****	**.297****	**.301****	**.501****	**.564****	**.570****	**.484****	**.595****
	.000	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**

Relationship between Organizational Learning Capability and Technology Readiness of Librarians in Region XI

Table 5.2 shows the data on the results of correlations between organizational learning capability and technology readiness. The overall r-value attained by the said measures is 0.586 with a p-value less than 0.05 hence, significant, therefore, rejecting the null hypothesis of no significant relationship.

Table 5.2
Significance of the Relationship between Organizational Learning Capability and Technology Readiness

Organizational Learning Capabilities	Technology Readiness								
	OPT	INN	DIS	INS	POU	PEU	USI	DEM	Overall
MCE	.339** .000	.264** .000	.260** .000	.203** .000	.350** .000	.436** .000	.470** .000	.420** .000	.455** .000
EXP	.357** .000	.297** .000	.332** .000	.230** .000	.377** .000	.408** .000	.468** .000	.462** .000	.492** .000
RIT	.265** .000	.382** .000	.379** .000	.291** .000	.307** .000	.310** .000	.403** .000	.507** .000	.489** .000
OAI	.317** .000	.365** .000	.324** .000	.318** .000	.415** .000	.452** .000	.475** .000	.465** .000	.529** .000
KNT	.455** .000	.421** .000	.331** .000	.309** .000	.426** .000	.505** .000	.513** .000	.455** .000	.573** .000
Overall	**.398**** **.000**	**.401**** **.000**	**.378**** **.000**	**.313**** **.000**	**.431**** **.000**	**.484**** **.000**	**.537**** **.000**	**.537**** **.000**	.586** .000

The test of relationship between variables reveals a significant relationship between organizational learning capability and technology readiness of librarians which leads also to reject the null hypothesis of the study.

Further, it suggests that organizational learning capability has something to do with technology readiness.

Relationship between Futures Consciousness and Technology Readiness of Librarians in Region XI

Table 5.3 exhibits the data on the results of correlations between futures consciousness and technology readiness. The overall r-value attained by the aforesaid measures is 0.726 with a p-value less than 0.05 hence, significant, therefore, the null hypothesis of no significant relationship was rejected. Hence, the test of relationship between variables reveals a significant relationship between futures consciousness and technology readiness of librarians.

Table 5.3
Significance of the Relationship between Futures Consciousness and Technology Readiness

Future Consciousness	Technology Readiness								
	OPT	INN	DIS	INS	POU	PEU	USI	DEM	Overall
TIP	.459** .000	.376** .000	.242** .000	.315** .000	.474** .000	.493** .000	.510** .000	.476** .000	**.555** .000**
AGB	.428** .000	.538** .000	.440** .000	.361** .000	.544** .000	.461** .000	.535** .000	.518** .000	**.651** .000**
OTA	.447** .000	.429** .000	.292** .000	.357** .000	.447** .000	.500** .000	**.514** .000**	.530** .000	**.590** .000**
SYP	.456** .000	.479** .000	.319** .000	.411** .000	.542** .000	.590** .000	.502** .000	.516** .000	**.642** .000**
CFO	.592** .000	.473** .000	.313** .000	.330** .000	.589** .000	.586** .000	.542** .000	.443** .000	**.644** .000**
Overall	**.559** .000**	**.541** .000**	**.379** .000**	**.418** .000**	**.611** .000**	**.619** .000**	**.613** .000**	**.585** .000**	**.726** .000**

Influence between Library Culture, Organizational Learning Capability, and Futures Consciousness on Technology Readiness of Librarians

Table 6 presents the regression analysis that was utilized to examine the significant influence of three exogenous variables, specifically library culture, organizational learning capability, and futures consciousness on the endogenous variable of technology readiness among librarians. The results indicate that the computed F-value of 137.321, R-value of .747, and related p-value of .000 ($p<0.05$) demonstrate a significant relationship between the variables. In conclusion, the results showed that exogenous variables (organizational learning capability and futures consciousness) significantly influence the endogenous variable (technology readiness) while the other exogenous variable (library culture) does not influence the endogenous variable.

Table 6
Significance of the Influence of Library Culture, Organizational Learning Capabilities, and Futures Consciousness on Technology Readiness of Librarians

Technology Readiness					
Exogenous Variables		*B*	β	*t*	*Sig.*
Constant		.861		4.844	.000
Library Culture		.105	.104	1.730	.085
Organizational Learning Capabilities		.130	.157	2.743	.006
Futures Consciousness		.546	.557	10.815	.000
R	.747				
R^2	.558				
ΔR	.554				
F	137.321				
ρ	.000				

Best Structural Model of Technology Readiness for Librarians

This section provides an examination of the interrelationships between library culture, organizational learning capability, futures consciousness and technology readiness among librarians. A total of three potential models were examined in order to determine the best optimal model for assessing the technology readiness among librarians. Furthermore, the evaluation of the model's fit was employed as a fundamental criterion for determining its acceptance or rejection. Typically, the researcher established the causal relationship between the latent variable and the many other latent variables.

These criteria include indices greater than 0.95, p-values greater than 0.05, CMIN/DF values between 0 and 2,

RMSEA values less than 0.05, and P-close values greater than 0.05. These findings suggest the need to generate another model. Regrettably, the first and second models produced outcomes that indicated none or zero out of the four computed indices (GFI, CFI, NFI, and TLI) for these models met the required threshold of values (0.95). The p-values for both variables are less than the standard threshold of >0.05. Additionally, the respective CMIN/DF values of 7.707 and 5.845 exceeded the standard range of 0 to 2. The RMSEA values of 0.143 and 0.121 also surpass the standard threshold of <0.05. Furthermore, both P-close values are 0.000, which is below the standard threshold of >0.05.

These results collectively suggest that the first and second models are not a good fit.

The resulting Model 3 demonstrates a strong fit to the data, as the exogenous variables such as library culture, organizational learning capability, and futures consciousness serve as predictors of the technology readiness among librarians. Therefore, it is imperative to uphold these predictions to enhance the technology readiness for librarians within the region. The results also demonstrate a correlation between a healthy library culture and several aspects of technology readiness as well as organizational learning capability and futures consciousness.

Table 7
Summary of Goodness of Fit Measures of the Three Generated Models

Model	P-value (>0.05)	CMIN / DF (0<value<2)	GFI (>0.95)	CFI (>0.95)	NFI (>0.95)	TLI (>0.95)	RMSEA (<0.05)	P-close (>0.05)
1	.000	7.707	.666	.756	.731	.730	.143	.000
2	.000	5.845	.700	.826	.798	.805	.121	.000
3	.082	1.398	.982	.996	.986	.990	.035	.831

Best Fit Structural Model of Technology Readiness for Librarians

Model 3 displays the standardized solution of the structural model that has been created. The analysis reveals that all the initial three variables, library culture, organizational learning capability, and futures consciousness persist as components of the resulting optimal model.

This implies that these variables in the best-fit model of technology readiness for librarians in the region were determined to be statistically suitable.

The findings of this study indicate that the variable, library culture, is influenced by various measurable characteristics, including professional values, collaboration, and transformational leadership.

Therefore, the exclusion of emphasis of learning, collegiality, and shared planning are within the process.

Also, measurable indicators, including managerial commitment and engagement, experimentation, and risk taking is seen to influence the variable organizational learning capability.

In the case of futures consciousness, the inclusion of parameters such as time perspective, openness to alternativeness, and concern for others allows for a statistical correlation with the endogenous variable.

However, agency beliefs and systems perception are omitted from this model.

Although goodness-of-fit reflects how well a model matches the observed data, it should not be the sole basis for judging model quality.

A model may exhibit high fit statistics but still lack meaningful explanatory power or theoretical alignment. Fit indices are only one aspect of model evaluation.

A well-constructed model should also show strong and meaningful relationships between variables, adequate explained variance (R^2), and consistency with the underlying theory.

Therefore, statistical significance alone does not justify the inclusion of an indicator, especially if it contributes little to the model's overall explanatory strength or theoretical clarity (Shi & Maydeu-Olivares, 2020; Kang & Ahn, 2021; Xiong et al., 2025).

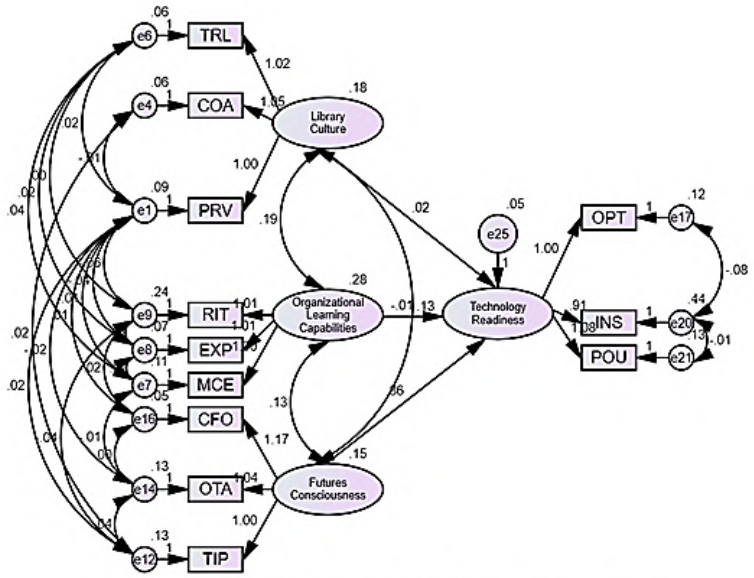

Figure 3. Best Fit Model for Technology Readiness of Librarians

Legend:

PRV-Professional Values
COA-Collaboration
TRL-Transformational Leadership
MCE-Mg'l. Commitment and Engagement
EXP-Experimentation
RIT-Risk Taking
TIP-Time Perspective
OTA-Openness to Alternativeness
CFO-Concern for Others
OPT-Optimism
INS-Insecurity
POU-Perceived Ease of Use

Estimates of Variable Regression Weights in Generated Best Fit Model

The estimates of the variables' regression weights that were used to generate best-fit model are presented in Table 8. The coefficient of standard error for the path Organizational Learning Capability ---> Technology Readiness (TR) is =.081 and the p-value is .862, which indicates that organizational learning capability has no significant influence on the technology readiness among librarians in Region XI. In the case of the path analysis of Library Culture ---> Technology Readiness, the values are generated, namely: S.E. or standard error, is =.134 and p-value is .868, all of which indicate that library culture has no significant influence on TR. Finally, the coefficient of standard error for the path Futures Consciousness ---> Technology Readiness is =.119 and the p-value is less than 0.01, indicating a significant influence on TR.

Table 8
Estimates of Variable Regression Weights in Generated Best Fit Model

			Estimate	S.E.	C.R.	P
Technology_Readiness	<---	Organizational_Learning_Capability	-.014	.081	-.174	.862
Technology_Readiness	<---	Library_Culture	.022	.134	.166	.868
Technology_Readiness	<---	Futures_Consciousness	.863	.119	7.238	***
PRV	<---	Library_Culture	1.000			
COA	<---	Library_Culture	1.049	.090	11.629	***
TRL	<---	Library_Culture	1.025	.091	11.258	***
MCE	<---	Organizational_Learning_Capability	1.000			
EXP	<---	Organizational_Learning_Capability	1.011	.051	19.991	***
RIT	<---	Organizational_Learning_Capability	1.010	.082	12.304	***
TIP	<---	Futures_Consciousness	1.000			
OTA	<---	Futures_Consciousness	1.042	.073	14.283	***
CFO	<---	Futures_Consciousness	1.174	.082	14.367	***
OPT	<---	Technology_Readiness	1.000			
INS	<---	Technology_Readiness	.907	.143	6.324	***
POU	<---	Technology_Readiness	1.079	.091	11.906	***

CONCLUSION AND RECOMMENDATION

With the study's findings, conclusions are drawn in this chapter. The findings provide evidence that the considerations of these variables are relevant to each other. The use of the structural equation model enhanced the reliability and profoundness of this study because the analysis goes through the process of model specification, model estimation, and model evaluation.

Results revealed that the level of library culture is very high; the level of organizational learning capabilities is very high; the level of futures consciousness is very high; and the level of technology readiness of librarians is very high. There is a significant relationship between library culture and technology readiness of librarians. Likewise, there is a significant relationship between organizational learning capabilities and technology readiness of librarians. Moreover, there is a significant relationship between futures consciousness and the technology readiness of librarians.

Based from the results of the study, for library culture, the librarians may maintain collegiality at work and keep believing that mutual respect in the workplace will possess harmonious relationship. Moreover, to improve collaboration, librarians may implement strategies that encourages idea-sharing and collective problem-solving, as reflected in table 1 to ensure healthy library culture.

In organizational learning capabilities, as one of the exogenous variables which has significant influence on technology readiness, it is recommended to conduct training sessions focused on building librarians' capacity to evaluate potential risks and design effective contingency plans, as indicated in table 2. Furthermore, it is imperative that librarians are provided with practical tools to mitigate risks with confidence.

In futures consciousness, the administrations are encouraged to enthusiastically initiate activities that encourages autonomy and personal growth, as indicated in table 3, with agency beliefs being the lowest indicator. Also, encourage the practice of recognizing individual achievements and offering resources that help librarians take ownership of their roles.

Furthermore, it is recommended that technology readiness among librarians shall be given more attention particularly to discomfort and insecurity as reflected in table 4. Provide targeted trainings and support to help librarians build confidence in using new technologies. Also, create a safe space for librarians to express concerns and ask questions without judgment to help alleviate insecurities and form a more positive attitude toward technological adoption.

Among three explored structural models, only model 3 found to have indices that consistently indicate a very good fit for the data because all the indices presented fall within each criterion. Thus, it was found to be the best fit model among all the tested models. This model indicates that technology readiness of librarians with indicators optimism, insecurity and perceived ease of use is strongly influenced by library culture depicted by the indicators professional values, collaboration and transformational leadership; organizational learning capabilities with indicators managerial commitment and engagement, experimentation, and risk taking; and futures consciousness defined by indicators concern for others, openness to alternativeness, and time perspective. Finally, the final model demonstrated direct causal links between library culture, organizational learning capabilities, and futures consciousness, and was shown to be the best fit model on technology readiness among librarians in Region XI.

It is recommended that agencies and organizations particularly in Southern Mindanao, Region XI, may consider the best model for technology readiness among librarians generated by this study, to collectively support a positive attitude toward technology and improve librarians' readiness for its adoption.

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