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CHANGE-READINESS SCALE FOR LIBRARY MANAGERS: DEVELOPMENT AND ANALYSIS

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Abstract

This study focuses on developing a scale that encompasses aspects of readiness to change by library management in dealing with the next normal in libraries. It investigates measuring change readiness in terms of library service operations, workflows, administration, programs, and spaces, which can give an overall view of a library institution's preparedness to meet new roles and expectations. While there were several readiness-for-change instruments constructed for various organizations and institutions, this study uses a two-phase approach, attempting to design an instrument and validate the items in this scale. The scale, referred to as Change-Readiness Instrument for Library Managers (CRILM), was derived from an original self-developed questionnaire and consists of a 20-item readiness-for-change attributes. CRILM was subjected to a verification process for its applicability, relevance, and clarity of the items. The Kaiser-Meyer-Olkin (KMO) measure of Sampling Adequacy and Bartlett's Test of Sphericity were conducted to validate the adequacy of data. The items were factor-analyzed to see the correlations using the Principal Component method of extraction with Varimax Rotation. Cronbach's Alpha was employed to calculate reliability and verify the items' consistencies of scale. Library managers who are head librarians from different types of libraries were the target sample identified via a self-selection non-probability sampling technique. The initial results yielded from the respondent sample indicate that the CRILM is deemed suitable for measuring change-readiness among library managers and libraries. However, it should be subjected to testing and use by a wider target group to further strengthen its usability. The results of the study offer help to library managers in assessing the readiness of their organizations to effectively manage change and be future-ready.

Keywords: Change readiness, Readiness scale, Instrument validation, Library managers, Librarians, Libraries

1. INTRODUCTION

Much of the world did not expect another pandemic forthcoming within this lifetime that ultimately caused disruptions to all known normalcies. The COVID-19 pandemic significantly altered routines and changed the way people do things. Interventions and anticipated responses were taken up to adapt to the changing environment so that work and life shall continue. In the academic setting, teaching, learning and research have swiftly transitioned to online and remote modalities, where technology appropriation became a more critical requirement in making the shift to adaptive learning environment possible.

Libraries, being part of the academic and research community, were also challenged by this sudden change in the environment. Service delivery has shifted from onsite to offsite (Hinchliffe and Wolf-Eisenberg, 2020). At the onset of this pandemic, libraries faced budget cuts, workforce threats, and the reprogramming of remote work services and guidelines were just some of the major challenges dealt with by the library management. These needed to be swiftly acted upon, as access to information resources and services need to continue and offered with added value.

Change readiness, as defined by Musselwhite and Plouffe (2010), is "the ability to continuously initiate and respond to change in ways that create advantage, minimize risk, and sustain

performance". A library manager's leadership and foresight play a crucial role in navigating through these times of change and how ready they are to face it. According to Bell (2019), library leaders having a change readiness mindset could significantly improve an organization's ability to adapt to change, which could eventually lead to a growth mindset instead of a fixed mindset. Furthermore, he explained that a change readiness mindset enacts leaders to perceive trends signaling that change is already happening.

1.1 Previously developed readiness instruments

For this study, several change-readiness instruments were consulted. A literature review was also conducted to find out if there had been previously developed change-readiness instruments specific to libraries and library management. Based on literature scanning, readiness scales were found among the areas of human resource management (Stapelfeldt, et al., 2019), higher education (Goh & Blake, 2021), organizational readiness in the health sector (Helfrich, et al., 2009), self-directed learning (Kumar, et al., 2021), e-learning (Watkins, Leigh, & Triner, 2004) and cultural competences (McAlearney, et al., 2021).

1.2 Development of a change-readiness scale for libraries

While there are a number of readiness-for-change instruments designed for various organizations and institutions available, some of the readiness instruments found in the literature in the library and information science field dealt mostly with e-readiness and information literacy. There seems to be an apparent gap in the literature when it comes to readiness-for-change in the library service environment.

This study attempts to design and validate a scale specific for library managers. It investigates measuring change readiness in terms of library service operations, workflows, administration, programs, and spaces, which can give an overall picture of a library institution's preparedness in meeting new roles and expectations.

2. PURPOSE OF THE STUDY

This study focuses on coming up with an instrument that encompasses aspects of change-readiness by library management in dealing with the next normal scenario in libraries. It aims to:

- (1) design a new scale labeled as Change-Readiness Instrument for Library Managers (CRILM), to measure a library's readiness for change; and
- (2) test the validity and reliability of the scale that can be used in assessing change-readiness, and in implementing change by library institutions to meet new roles and expectations.

3. METHODS

3.1 Design

Descriptive quantitative research was employed in this study. It consisted of a two-phase approach that covers the designing of a self-developed questionnaire referred to as CRILM, and validation of the items in the scale.

3.1.1 Instrument development

The instrument was derived from an original questionnaire developed by the authors, which encompasses a library management's adaptability to change and change readiness. Similar change-readiness assessment tools were consulted from various literature to identify the relevant

items to be used for this scale. An investigation of local libraries' strategic and work plans was likewise conducted to further note what key drivers were critical to managing change within their respective library organizations. From these approaches, control statements specific to a library management's readiness for change were therefore generated. A 20-item instrument measured by a 5-point, level of agreement Likert scale (1-Strongly disagree to 5-Strongly agree) was devised, with attributes grouped into six constructs: 1-Personnel (6 items); 2-Administration (5 items); 3-Services (3 items); 4-Collections (2 items); 5-Programs (2 items); and 6-Spaces, facilities, and technology (2 items) (see Table 1). The 2-item attribute for the latter three constructs incorporated the pertinent readiness-for-change statements, therefore, considered adequate.

Table 1
Change-readiness constructs and attributes of the instrument

Construct	Item / Attribute
<i>Personnel</i>	1 We are ready for any periodic changes in our processes/procedures/workflows.
	2 We are ready for periodic changes in service operations delivery (onsite and remote).
	3 We are ready and open to changing roles and re-assignment of tasks.
	4 We are ready for flexible work arrangements.
	5 Our staff are ready to be upskilled on digital technology and tools.
	6 Our librarians are ready to highly participate in the blended learning and teaching modalities.
<i>Administration</i>	7 We are ready for the possibility of reduced staffing.
	8 We are ready to hire and ease-in new hires.
	9 We are ready for any adjustments (reduction, increase, re-alignment) to be imposed upon our budget.
	10 We are ready to re-invent our strategies and priorities periodically to adapt to the times.
	11 We are ready to offer more flexibility in our policies/guidelines (e.g., loan periods, resources use) adaptive to the times.
<i>Services</i>	12 We are ready to offer varied options in the servicing of our collections (e.g., book pickups/returns, document delivery, interlibrary loans).
	13 We are ready for the possibility of predominant online library services.
	14 We are ready to offer reference services in both online and face-to-face (desk) modalities.
<i>Collections</i>	15 We are ready to offer 24/7 access to e-resources (e.g., online databases, e-books, e-journals) and platforms (e.g., OPAC/discovery search, digital archives/repositories).
	16 We are ready to build a hybrid (print and e-) collection.
<i>Programs</i>	17 We are ready to support online learning through offering library research training sessions to our community in both online (i.e., synchronous, asynchronous) and face-to-face modalities.
	18 We are ready to conduct public and community engagement programs (e.g., marketing/promotion, launch events, celebrations, knowledge forums, exhibits, outreach, etc.) in both online and onsite venues.
<i>Spaces, facilities and technology</i>	19 Our physical spaces are ready for adaptive learning environments (i.e., safe distancing and health protocols compliant, repurposed spaces to support online teaching and learning).

Construct	Item / Attribute
	20 Our digital infrastructure is ready for quality access to the Internet.

3.1.2 Validation of CRILM items

The instrument was subjected to a verification process for its applicability, relevance to the research design, and clarity of the items. Two (2) library managers thoroughly reviewed the items and tested the instrument via face validation to ensure suitability of content and context. The selection of content validators was based on their management experience and practice in the field as second-in-command to the head librarian, vis-a-vis the authors' experience in working with them. For content validation, the minimum acceptable number of expert reviewers is two, considering its acceptable Content Validity Index (CVI) values (Davis, 1992, as cited in Yussof, 2019).

As these library managers belong to different institutions, the non-face-to-face content validation approach was employed whereby the instrument was sent to them online with guide questions and pointers provided, especially on items that may appear vague to the target respondents. At the end of the validation process, the items were rated as generally well-structured and relevant to the research design. Minor inputs include choice of terms for familiarity and rephrasing statements for specificity.

3.2 Sample and data collection

Library managers who are head librarians from different types of libraries were the target sample identified via a self-selection non-probability sampling technique. This technique includes or excludes sample units depending on whether they explicitly or implicitly agree or decline to participate in the sampling process (Lavrakas, 2011). Excluded from the sample group were those without subordinates or no library team. Per sample size calculation, a minimum of 75 subjects is required with a 99% confidence level. The original questionnaire, which carries the change-readiness attributes, was released to specifically identified respondents, then later released to professional discussion groups of local library associations inviting library managers to participate in the survey. Seventy-six (76) head librarians were retrieved as samples by the end of the data collection period.

3.3 Data analysis

SPSS software was used to analyze the data. Exploratory Factor Analysis (EFA) was conducted to determine the content and construct validity of the CRILM. The goal of EFA is to determine specific measures that effectively represent the constructs, its number, nature, and correlations (Fabrigar & Kan, 2018). It is used to investigate structural equivalence and often in multidimensional situations, where more than one latent variable is measured at the same time (Fontaine, 2005).

Meanwhile, Cronbach's Alpha (CA) was also employed to verify the consistencies of scale among the items. CA measures internal consistency ranging from 0.0 to 1.0 and quantifies how the items on an instrument correlate with each other (Adamson & Prion, 2013).

4. RESULTS AND DISCUSSION

The instrument was subjected to validity and reliability testing.

4.1 Validity of CRILM

To validate the adequacy of data, the Kaiser-Meyer-Olkin (KMO) measure of Sampling Adequacy

and Bartlett's Test of Sphericity were conducted. KMO result was 0.898 (must be >0.80), which determined that the data is adequate. Data is also statistically significant with Bartlett's test result of $\chi^2=1183.150$, $df=136$, $p < 0.000$. Both tests conclude that the CRILM items met the criteria to proceed with factor analysis.

Exploratory Factor Analysis (EFA) was then conducted to factor-analyze the 20 items of CRILM to see the interactions of the items. Common factors were extracted using the Principal Component extraction method, with Varimax with Kaiser Normalization rotation. Three (3) items were excluded after performing EFA as these were not correlated in the scale. Therefore, 17 items were correlated. The excluded items were administrative-related factors: "We are ready for the possibility of reduced staffing."; "We are ready to hire and ease-in new hires."; and "We are ready for any adjustments (reduction, increase, re-alignment) to be imposed upon our budget.". Said items were excluded as these did not contribute to readiness-for-change in libraries. Further to EFA, the minimum factor loading criterion of 0.40, as recommended by Stevens (2002, as cited in Bangert, 2006) was adopted, and given that the correlation to the total score of the 3 items was lesser than 0.3, these were excluded.

The 17 items were grouped into 3 factors based on the scree plot results and arranged according to the size of loading (see Table 2). These 3-factor groups explained 74.26% total variance in the scale. Factor groups were labeled based on the characteristics of the items within the sub-scale and as interpreted by the authors.

Factor 1 (29.00%, 7 items): *Flexibility in work and services*. Items in this sub-scale characterize factors related to calibrating strategic priorities when it comes to work arrangements and offering hybrid services.

Factor 2 (24.38%, 6 items): *Learning support readiness*. Items in this sub-scale include factors that mostly deal with the library's readiness in terms of providing learning support, i.e., programs, services, and facilities – to their community.

Factor 3 (20.88%, 4 items): *Adaptive to changing service environments*. Items in this sub-scale comprise factors related to accommodating changing roles to meet new and regular service needs, adaptive spaces, and access to information.

Table 2
Factor loadings of 17 items of the three change-readiness factors

Item	Factor 1	Factor 2	Factor 3
Flexibility in work and services			
We are ready to offer more flexibility in our policies/guidelines (e.g., loan periods, resources use) adaptive to the times.	0.850		
We are ready to re-invent our strategies and priorities periodically to adapt to the times.	0.830		
Our librarians are ready to highly participate in the blended learning and teaching modalities.	0.782		
We are ready to offer varied options in the servicing of our collections (e.g., book pickups/returns, document delivery, interlibrary loans).	0.755		
We are ready for flexible work arrangements.	0.683		
We are ready to offer reference services in both online and face-to-face (desk) modalities. Services	0.669		

Item	Factor 1	Factor 2	Factor 3
We are ready for the possibility of predominant online library services.	0.590		
Subtotal percentage of variance explained:	29.00		
Learning support readiness			
We are ready to support online learning through offering library research training sessions to our community in both online (i.e., synchronous, asynchronous) and face-to-face modalities.		0.805	
We are ready to conduct public and community engagement programs (e.g., marketing/promotion, launch events, celebrations, knowledge forums, exhibits, outreach, etc.) in both online and onsite venues.		0.716	
We are ready to build a hybrid (print and e-) collection.		0.748	
We are ready for any periodic changes in our processes/procedures/workflows.			
Our staff are ready to be upskilled on digital technology and tools.		0.523	
Our digital infrastructure is ready for quality access to the Internet.		0.606	
Subtotal percentage of variance explained:		24.38	
Adaptive to changing service environments			
We are ready to offer 24/7 access to e-resources (e.g., online databases, e-books, e-journals) and platforms (e.g., OPAC/discovery search, digital archives/repositories).			0.803
We are ready for periodic changes in service operations delivery (onsite and remote).			0.796
We are ready and open to changing roles and re-assignment of tasks.			0.653
Our physical spaces are ready for adaptive learning environments (i.e., safe distancing and health protocols compliant, repurposed spaces to support online teaching and learning).			0.647
Subtotal percentage of variance explained:			20.88

4.2 Reliability of CRILM

Cronbach's Alpha (CA) was calculated to verify the items' consistencies of scale in testing its reliability. Reliability implied a superior degree of consistency for readiness-for-change constructs, with a total score of 0.955. CA for each of the three sub-scales was likewise calculated whereby each indicated very high reliability values. There is an exceptionally strong internal consistency in all sub-scales (see Table 3).

Table 3
CA results for each CRILM sub-scale

Sub-scale	N of Items	Cronbach's Alpha
1 Flexibility in work and services	7	0.942
2 Learning support readiness	6	0.895
3 Adaptive to changing service environments	4	0.8

Results of the EFA and CA analyses revealed that the CRILM was both tested valid and reliable to be used in assessing the readiness of a library, in the event of changes in the service environment. CRILM covered the major domains and constructs of change-readiness in the context of a library setting.

4.3 Limitations

Although the minimum required number of subjects was met and the CRILM was well-tested, the exploratory study was conducted for a limited period and might have missed other factors of readiness-for-change that could possibly be included to further expand the scope of the scale. Item analysis was also not employed, and such in-depth analysis could further assess the quality and appropriateness of the level of the items.

6. CONCLUSION

The initial results yielded from the respondent sample indicate that the CRILM is deemed suitable for measuring change-readiness among library managers and libraries. To further strengthen its usability and confidence level, the scale should be subjected to testing and use by a wider target group to achieve more meaningful results. The results of the study offer help to library managers in assessing the readiness of their organizations to effectively manage change and be future-ready.

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