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2024

Omar, A. M., Suleiman, S. M. & Ali, Z. H. (2024). Exploring perspectives and challenges of information professionals in accessing massive open online courses for professional development. *Library and Information Science Research E-Journal*, 34(1), 19-44.
<https://dx.doi.org/10.32655/LIBRES.2024.1.2>

<https://hdl.handle.net/10356/181286>

<https://doi.org/10.32655/LIBRES.2024.1.2>

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Exploring Perspectives and Challenges of Information Professionals in Accessing Massive Open Online Courses for Professional Development

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ABSTRACT

Background. In recent years, the landscape of professional development has been significantly transformed by the emergence of Massive Open Online Courses (MOOCs) which represent a revolutionary approach to education, offering flexible, accessible, and often cost-effective learning opportunities across a wide range of disciplines, including library and information science.

Objectives. This study aims to examine the perspectives and challenges of information professionals in accessing MOOCs for professional development.

Methods. The study used a mixed approach whereby an explanatory sequential design was used to collect, analyze and interpret data. Data was collected from public library staff, academic library staff, archivists, museum curators and human resource officers in Zanzibar. Out of 100, a total of 75 (75%) respondents filled out questionnaires and interviews were conducted with 16 key informants.

Results. Findings revealed that the majority 50(67%) of information professionals experienced limited exposure to MOOCs and other professional development opportunities to upgrade their careers. Traditional methods such as seminars, workshops and conferences were the preferred methods of staff continuous training, however, the matter was not given the priority it deserves by individual staff. The study found the existence of partial support from management by providing funds for continuous training, however, there was neither direct involvement in the planning process nor serious evaluation made to assess the outcome of continuous staff training to achieve the organization's objectives.

Contribution. The study underlines the potential of MOOCs to revolutionize professional development for information professionals in Tanzania.

INTRODUCTION

In recent years, the landscape of Continuous Professional Development (CPD) has been significantly transformed by the emergence of MOOCs. Today, Information professionals, including librarians, archivists, knowledge and records managers, and others in related fields, are increasingly turning to MOOCs to enhance their skills, stay abreast of technological advancements, and broaden their knowledge base (Arua, 2019). This shift is driven by the rapid pace of technological change, the need for continuous learning in a digital age, and the desire to remain competitive in a globalized job market.

Professional development (PD), as defined by Jordan and Lloyd (2002) encompasses various activities aimed at upgrading knowledge, abilities, and competencies throughout one's working life. PD according to Dhanani, Chavda, Patel, and Tandel (2016) and Boyd et al. (2017) is designed to provide an active learning environment that allows participants to master specific learning objectives. Becher (1999) identifies seven categories or modes of continuing professional learning including attending training and conferences, physical or distance learning courses, technical assistance, engaging in professional interactions, doing personal research and learning by doing and learning by teaching.

Library and Information Science (LIS), being a dynamic field, requires continuous learning to adapt to evolving challenges posed by advancements in science and technology. Scholars like Adetayo (2023); Al-Daihani and Al-Awadhi (2015); and Rafiq, Jabeen, and Arif (2017); highlight the need for information professionals to proactively pursue CPD opportunities to stay up-to-date, competent and effective in their roles. Kilminster, Bradbury, Frost, and Zukas (2012) emphasized in their study how participation in CPD courses not only enhances expertise but also fosters creativity, confidence, and networking within the professional community.

Professional and continuing education for information professionals is indispensable to ensure adequate service. Thus, information professionals must be self-motivated and lifelong learners who are willing to take advantage of available opportunities for self-development (Soyemi & Babalola, 2018). With this regard, IFLA (as cited by Varlejs, Lewis, Schnuer, & Jara de Sumar, 2016) provided guidelines for CPD, asserting the primary responsibility of individuals to pursue ongoing learning, employers to support staff development, and associations to advocate for CPD quality. The discussion then shifts to the contemporary use of MOOCs.

MASSIVE OPEN ONLINE COURSES (MOOCS)

MOOCs, in layman's language, is described as free, online courses accessible to learners worldwide. Technically, the phrase "Massive Open Online Courses" has been defined by Smallwood, Harrod, and Gubnitskaia (2013); Leong (2013); Baturay (2015); Sawant (2016); and Kaushik (2021); as a collection of free web-based distance learning programs that offer an affordable mode of learning new skills, advancing careers and delivering quality educational and professional experience. The word free here means they have no entry requirements, no attendance limit, open enrollment and no course participation fees.

There are several platforms and websites that offer MOOCs, including, but not limited to Open Courseware, Moocs4dev, Research4life, Authoraid, MIT Open, Coursera, EdX, FutureLearn, Udemy, Udacity, Iversity, and Udani (Tsabedze & Tella, 2020). These burgeoning interests of MOOCs have helped to cause or bring about increasing public attention and participation. According to Shah (2021) a decade ago, MOOCs reached 220 million learners, and by the end of 2021, there were about 19,000 courses launched by

around 950 universities including short and online degree courses ranging from technical skills to general life skills. Data shows that in 2021 alone, 40 million new learners signed up for at least one MOOC.

MOOCs are recognized as a valuable tool for information professionals' reskilling and upskilling. Mahraj (2012), Heller (2014), Asokkumar, Sekar, Mathew, and Thomas (2023), highlight MOOCs' cost-efficiency and opportunities for information professionals to enhance their skills and education. MOOCs also facilitate networking among professionals, enabling the exchange of ideas and experiences (Creed-Dikeogu & Clark, 2013). While MOOCs cover a broad range of disciplines, a limited number of courses specifically focus on Library and Information Science (Adetayo, 2023). However, according to Sawant (2017), the interdisciplinary nature of LIS allows information professionals to make use of the non-LIS courses offered in different MOOCs disciplines. Hence, information professionals, according to Alharbi (2023), may join a variety of courses ranging from basic to advanced information and digital literacy, copyright, research data management, metadata organization, marketing of information, scientific writing and publishing, research methodology, evidence-based and systematic review, management skills, pedagogy skills, communication skills to life skills development.

TANZANIAN PERSPECTIVE ON MOOCS

Literature discusses the varying awareness and utilization of MOOCs among librarians in different regions. While studies by Soyemi and Babalola (2018), Sanni and Ajiboye (2021), and Tsabedze and Tella (2020) indicated growing awareness in Nigeria, Uswatini, and South Africa, respectively, challenges like limited internet infrastructure and awareness hinder MOOC use among information professionals in Africa.

From the Tanzanian perspective, many universities, consortia and professional organizations have taken deliberate measures to accelerate the careers of LIS professionals by organizing several staff training. However, as of now, there are many LIS courses offered in the traditional way. The study by Omar (2022) shows that very few universities have started to offer MOOCs through Moodle platforms. However, Lwoga and Sangeda (2019) reported remarkable changes in LIS education in Tanzania with the inclusion of ICT web 2.0 technologies, library automation, digitization and management of e-resources in the curriculum. These new features in turn help to equip the students and information professionals with relevant and advanced skills and competencies required for modern information services delivery.

Financial constraints in libraries, archives and museums in Tanzania impede in-service training programs (Omar, Mambo, Samzugui, & Ali, 2023). Thus, MOOCs, with their flexible and cost-effective nature, can fill this gap. Literature shows that, despite the benefits of MOOCs, challenges persist. Limited awareness, accreditation concerns, financial constraints, and issues related to learner engagement, cultural diversity, and technological know-how are noted in the literature (Muzafarova & Kaya, 2014; Liu, 2016; Aldahmani, Al-shami, Adil, & Sidek, 2020; Kondoro et al., 2023; Alemayehu & Chen, 2023). Similarly, Abdil-khan (2023) noted the lack of time, desire, and attention, as well as difficulties like inadequate course material and a lack of physical connection, have been recognized as significant barriers to the widespread adoption of MOOCs.

Despite these challenges, continuing education is essential and one of the solutions to information professionals to cope with technological advancement changes as well as to improve their careers. Mahraj (2012) highlights how MOOCs can address the changing role

of information professionals in the 21st century, covering areas like life skills, information literacy, statistics, research, academic writing, pedagogy, and information management. Despite these potential benefits, the literature suggests a need to investigate the awareness and utilization of MOOCs among information professionals in Tanzania and Zanzibar, emphasizing the importance of bridging the gap between the potential benefits of MOOCs and their actual implementation in professional development.

HEUTAGOGY THEORY

In executing this study, heutagogy theory has been adopted. The theory is associated with Stewart Hase and Chris Kenyon (2013). Heutagogy, often referred to as self-directed learning, is a theory that places the learner at the centre of the educational process, emphasizing their autonomy and self-regulation in acquiring knowledge and skills (Hase & Kenyon, 2000). This theory stands in contrast to traditional pedagogy, where the teacher holds the primary responsibility for structuring the learning experience.

According to Hase and Kenyon (2013), heutagogy builds upon the principles of andragogy (adult learning theory), but goes further by emphasizing not only the learner's ability to direct their learning but also their capacity to self-determine the direction and purpose of their learning journey. In heutagogical practice, learners take ownership of their learning process, setting their learning goals, choosing resources, evaluating their progress, fostering deep understanding and lifelong learning habits.

As a result, the theory focuses on empowering individuals to be active and self-motivated learners who can take full control of their learning process, and who can actively seek and acquire knowledge, rather than relying on a teacher or instructor, and this is what is primarily needed in undertaking online courses. As Hase and Kenyon (2013) argue, the primary principles of heutagogy are characterized by desire and self-motivation, critical thinking, autonomy, flexible learning pathways, reflective practice, collaborative learning, and continuous learning. On account of heutagogy, Blaschke (2012) stressed that learners have the autonomy to determine what they want to learn and how they want to learn it. They are responsible for regulating and monitoring their own learning activities. Learners come to believe in their own capabilities to learn and engage in critical reflection on their experiences, insights, and challenges encountered during the learning process.

The application of heutagogy in professional development is particularly relevant in contexts where individuals need to adapt to rapidly changing environments and acquire new skills to thrive in their careers. By empowering professionals to take ownership of their learning, heutagogy enables them to stay abreast of emerging trends, deepen their expertise, and pursue continuous growth and development.

Therefore, for this study, information professionals are learners, and MOOCs provide a wide range of courses and materials for self-directed learning. Information professionals may choose courses that align with their specific needs and interests ranging from practical skills and knowledge relevant to their profession to non-professional skills that have a direct impact on their daily work. Therefore, whether one pursuing personal interests or professional ambitions, continuous professional development through MOOCs may help them to achieve personal fulfillment and satisfaction.

As far as this study is concerned, the researchers adopted the heutagogy theory to identify independent and dependent variables. The independent variable is involvement of MOOCs-based Professional Development Programs and the dependent variables are information professionals' perceptions, attitudes, and beliefs on self-directed learning as a

means of professional development and the challenges they encounter when using MOOCs. Mediating variables that influence the relationship between independent and dependent variables are desire, self-learning motivation and technological competence of information professionals, while moderating variables that normally can modify the strength or direction of these relationships are professional experience and familiarity with self-directed learning, support and resources.

The use of Heutagogy theory in this study helped to provide a framework for understanding how information professionals engage with MOOCs for professional development, in particular, guiding the creation of surveys and interviews for exploring information professionals' perspectives, self-directed learning preferences, motivations, experiences, and challenges related to MOOCs.

METHODS

This study was conducted in the Zanzibar Islands involving two public libraries—the Institute of Archives and Records, Department of Museums and Antiquities; and three higher learning institutions—the Institute of Public Administration, the State University of Zanzibar and the Zanzibar University. It investigates the perspectives and challenges of information professionals in accessing MOOCs for professional development. Specifically, the study aims to:

- examine the familiarity with MOOCs among information professionals
- examine the preferred continuous training methods by information professionals
- examine the engagement of information professionals on MOOCs platforms for career development
- explore the challenges facing information professionals in accessing MOOCs for career development.

The study population mainly involved information professionals working in these institutions including library staff, archivist, museum curators as well as human resource officers.

Based on the respondents' similarity of traits, non-probability sampling using purposive sampling techniques was applied to select respondents for this study. This sampling technique enabled the researchers to select respondents believed to be reliable and relevant to the research topic and who could provide adequate information to answer the research questions. The researchers further used the maximum variation sampling technique to ensure that they captured a wide range of perspectives across the sample.

The study used a mixed approach whereas an explanatory sequential design was used to collect, analyze and interpret data. For the current study, a mixed approach was preferred for its complementary strengths of using the strengths of one research method to mitigate the limitations of the other. Similarly, the method was a useful strategy and helped the researchers to compare different perspectives drawn from quantitative and qualitative data.

The explanatory sequential mixed methods involved a two-phase data collection study in which the researchers collected quantitative data in the first phase, analyzed the results, and then followed up with qualitative interviews. The researchers conducted quantitative survey first to collect broad, structured data from the entire sample size. This helped to establish a baseline understanding of the overall trends, prevalence, and patterns

related to the study's objectives. Also, the quantitative phase guided the development of qualitative interview questions by highlighting the key areas of interest or unexpected findings.

In the first phase, data was collected through a survey method using a structured standardized questionnaire (see Appendix). A self-administered questionnaire was distributed to 40 public library staff, 30 academic library staff, 15 archivists and 15 museum staff. The questionnaire response was obtained from 75 (75%) respondents; 25 public library staff, 26 academic library staff, 11 archivists and 13 museum staff. The quantitative results helped to plan and inform the types of participants to be purposefully selected for the second qualitative phase and the types of questions to be asked.

In the second phase, qualitative data were collected through face-to-face interview sessions which were conducted with 16 respondents including 6 human resources officers, 4 information professionals and 6 heads of departments. In this phase, the researchers wanted to explore deeper into the reasons for low exposure to professional training, reasons for their preferences on training methods and subject areas for career development, and finally, the reasons behind their rating of challenges. Semi-structured interviews were conducted to gather in-depth information, experiences, thoughts and opinions of participants to supplement information received from the first phase. A voice recorder was used to record the interview conversations after getting the consent of the respondents.

Qualitative interviews helped to examine the degree of participant experiences, providing a richer understanding of the issues identified in the quantitative phase. Thus, combining both quantitative and qualitative methods enhanced the credibility and rigor of this study. Triangulating findings from different data sources strengthened the validity of the research, providing a more comprehensive and well-rounded understanding of the phenomenon under investigation. In data analyses and integration, the quantitative and the qualitative databases were analyzed separately. Later, the researchers combined the two databases by means of connecting the quantitative results to the qualitative data. Table 1 shows summary statistics for the respondents of the two phases.

RESULTS

Respondents were asked to state their level of education. Results in Table 2 indicate that, respondents with a first degree are comprised of a higher percentage in comparison to other levels, they recorded 30(40%), and this was nearly followed by Diploma 26(34.7%). Respondents who held a certificate were 11(14.7%), while respondents with a master's comprised a low percentage of 8(10.6%). The findings indicate that the respondents were

Table 1. Number of respondents involved in the questionnaire and interview

Respondents	Quantitative	Qualitative
Public Library Staff	25 (33.3%)	3
Department of museums and Antiquities	13 (17.3%)	2
Institute of Archives and Records	11 (14.6%)	2
Institute of Public Administration library	4 (5.3%)	3
Zanzibar University Library	8 (10.6%)	3
State University of Zanzibar Library	14 (18%)	3
Total Respondents	75 (100%)	16

Table 2. Respondents' educational level

Respondent's education level	Public library Staff		Academic library staff		Museums curators, Archivists, Antiquities		Total	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Certificate	7	28	-	-	4	16.6	11	14.7
Diploma	9	36	8	30.7	9	37.5	26	34.7
Degree	7	28	15	57.7	8	33.4	30	40
Masters	2	8	3	11.6	3	12.5	8	10.6
PhD	-	-	-	-	-	-	-	-
Total	25	100	26	100	24	100	75	100

Table 1. Respondents' working experience

Respondents' working experience	Public library staff		Academic library staff		Museums curators, archivists, antiquities		Total	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
1 to 3 years	4	16	4	15.6	3	12.5	11	14.7
4 to 6 years	5	20	8	30.7	5	20.7	18	24
7 to 10 years	7	28	6	23	7	29.3	20	26.7
More than 10 years	9	36	8	30.7	9	37.5	26	34.6
Total	25	100	26	100	24	100	75	100

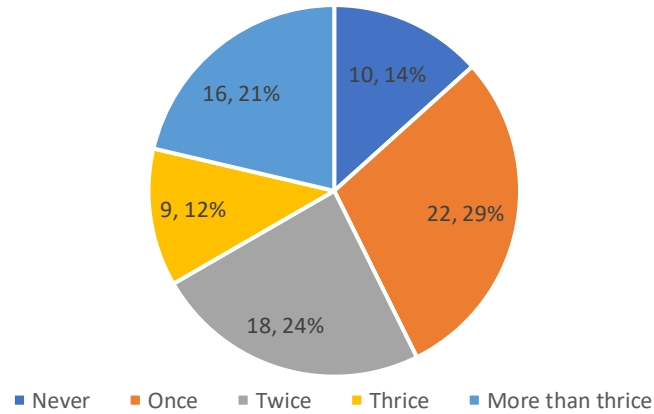


Figure 1. Frequency of training attendance

either professionals or para-professionals in the field of libraries, museums and records management.

The working experience is an important factor in understanding the perception and challenges of professionals in attaining continuous development. Results as shown in Table 3 indicate that the majority 26(34.6%) had experience of over ten years. This was followed by 20(26.7%) of respondents with 7 to 10 years of experience. Moreover, respondents with working experience ranging from 4 to 6 years were 18(24%), while a minority 11(14.7%) fall under the category of 1 to 3 years of working experience. Table 3 illustrates an overview of respondents' working experience in terms of years. It is sufficient to say that the respondents involved in the study possessed adequate experience and information to share in this study.

Attending professional training is a crucial aspect of improving organizational efficiency. Respondents were asked to state the frequency of professional development training attendance. The aim was to know if staff were given a chance to attend professional training. Their responses are summarized in Figure 1.

Results in Figure 1 indicate that 22(29%) stated had attended professional training only once, following closely behind 18(24%) who reported attending training twice. About, 16(21%) attended professional training more than thrice, followed by 9(12%) who attended three times, while 10(14%) had never attended any professional training.

The level of management commitment to support professional development is pivotal and has a direct impact on the success of MOOCs-based career development programs. Respondents were asked to rate the level of their agreement on management commitment in supporting the continuous development of their staff. They were given readymade answers to rate some aspects from strongly agreed to strongly disagree. Their responses are summarized in Table 4.

Table 4 which indicates that a significant proportion 28(37.3%) disagreed that management effectively develops and communicates staff professional development plans. This indicates a potential issue with transparency and communication regarding ongoing training initiatives. Likewise, the presence of both neutral and somewhat agreed responses suggests some uncertainties or variations in perceptions among respondents.

Table 4. Level of agreement on management commitment to staff continuous development

Commitment	Strongly agreed	%	Somewhat agreed	%	Neutral	%	Disagreed	%	Strongly disagreed	%
Develops and communicates staff professional development plans, guideline and implementation strategies	3	4%	20	26.6%	7	9.3%	28	37.3%	17	22.6%
Encourages staff to find and apply for CPD training	6	8%	33	44%	5	6.6%	20	26.6%	11	14.6%
Involves staff in identifying training development needs	5	6.6%	25	33.3%	9	12%	23	30.6%	13	17.3%
Ensures adequate resources are available for effective training development implementation	6	8%	21	28%	8	10.6%	31	41.3%	9	12%
Ensures sufficient, relevant and cost effective CPD is carried out for each information professionals	5	6.6%	15	20%	11	14.6%	33	44%	11	14.6%
Jointly, evaluate with staff the outcome and benefit of CPD carried out against defined plans and objectives	2	2.6%	13	17.3%	8	10.6%	32	42.6%	20	26.6%

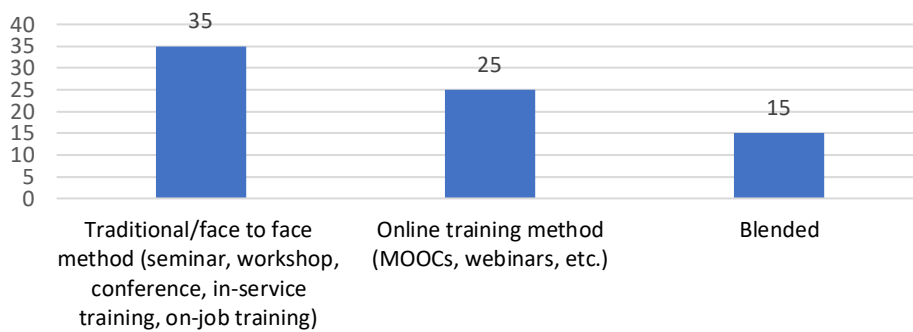


Figure 2. Preference of professional training methods

While a substantial number 33(44%) felt that management somewhat encourages staff to find and apply for professional training, there is notable disagreement 20(26.6%) and strong disagreement 11(14.6%). Also, in the split responses on staff involvement in identifying training needs 25(33.3%) agreed, and 23(30.6%) disagreed, highlight potential disparities in the perception of employees' participation in shaping their professional development. On the other hand, the presence of strong disagreement 13(17.3%) suggests a significant portion of respondents feels excluded from this process.

A substantial portion 31(41.3%) disagreed that management ensures adequate resources for effective training development. This indicates potential concerns about resource allocation and accessibility. Furthermore, a considerable number 33(44%) expressed disagreement with management's commitment to ensuring sufficient, relevant, and cost-effective Continuing Professional Development (CPD) for information professionals. The low percentage of strong agreement 5(6.6%) suggests a lack of confidence in the organization's dedication to fostering professional development.

Regarding the employee involvement in evaluating professional development, a majority 32(42.6%) disagreed that employees were involved in evaluating the results and benefits of professional development training. This points to a potential gap in involving staff in assessing the effectiveness of training initiatives.

Furthermore, respondents were asked to state their preferences on professional training methods between face-to-face method, online method and blended method. They provided the following opinions as shown in Figure 2.

Results in Figure 2 show that the preference of the majority 35(46.6%) of respondents was the traditional (face-to-face) method, whereas 25(%) preferred the online training method which includes MOOCs and webinars and 15(%) preferred the blended method.

Literature shows that MOOCs can offer a flexible and accessible way for information professionals to acquire new skills, keep up with industry trends, and advance in their careers. Thus, respondents were asked to state their familiarity with MOOCs. The results show that there is a sizeable number of respondents who are either somewhat familiar or very familiar with MOOCs, indicating that some information professionals are already engaged with this mode of learning. Their answers are summarized in Figure 3.

The results in Figure 3 indicate that the majority 26(34.6%) and 18(24%) of respondents were either less familiar or not familiar with MOOCs, followed by 21(28%) who were somewhat familiar and 5(6.6%) were very familiar, while 5(6.6%) were neutral.

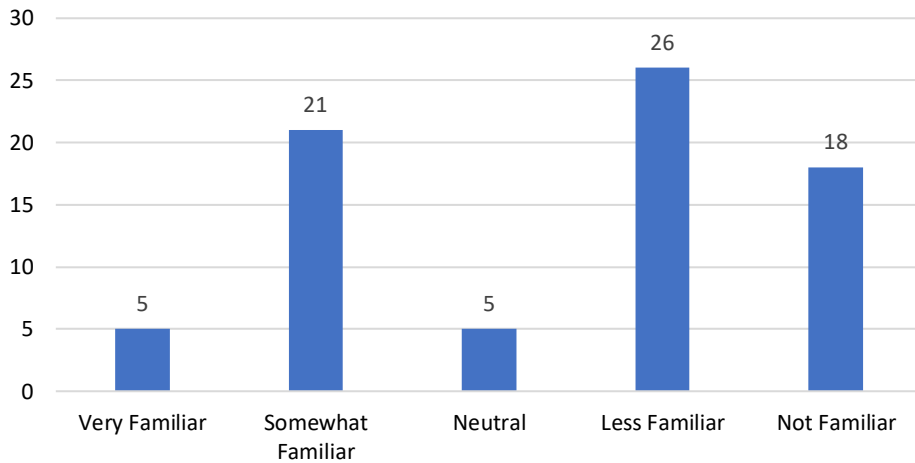


Figure 3. Familiarity with massive open online courses

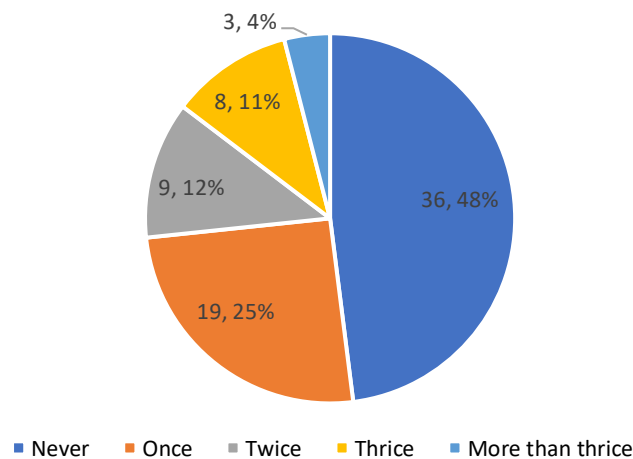


Figure 4. Information professionals' participation in MOOCs

Respondents were also asked to rate the frequency of joining MOOCs. The data presented in Figure 4 provides valuable insights into the frequency of information professionals' participation in MOOCs and its implications for their career development.

Results in Figure 4 indicate that the majority of respondents 36(48%) had never joined online courses, 19(25%) reported joining once, 9(12%) joined twice, nearly followed by 8(11%) who joined thrice, while 3(4%) joined online courses more than three times.

To understand the online MOOC preference of information professionals, respondents were asked to mention the platforms they have joined to undertake online courses. They were given some options to choose and their responses are summarized in Figure 5.

Results in Figure 5 show that the online platform used by the majority 12(16%) of respondents is Coursera, followed by Research4life 9(12%), and AuthorAid used by 6(8%) respondents. Moreover, 4(5.3%) respondents recorded to use MOOCs4dev, while Futurelearn and Udemy recorded by 3(4%) respondents.

The function of librarians and information professionals continuously evolves as we move into the digital age. Today, information professionals must develop essential skills

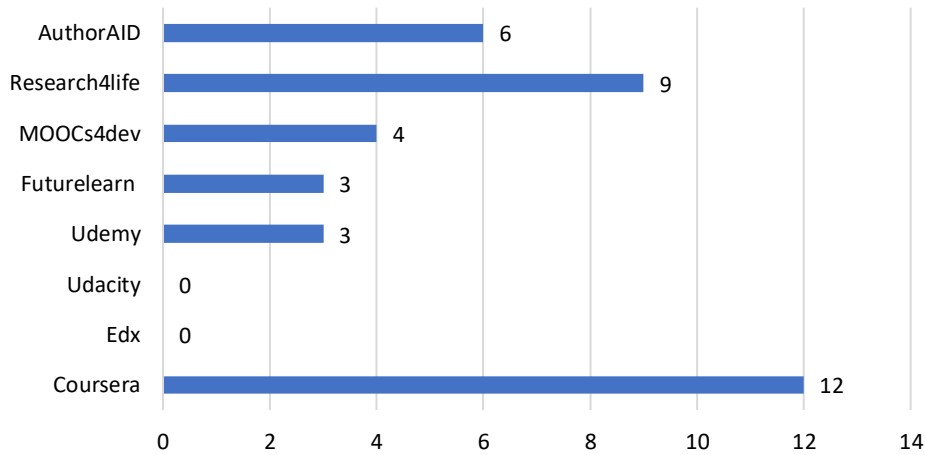


Figure 5. Online platforms for MOOCs

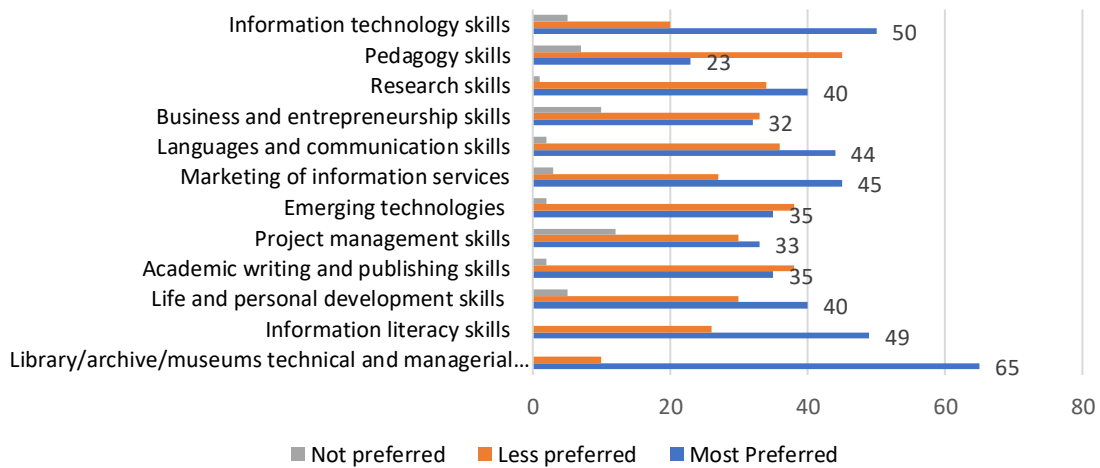


Figure 6. Preferred subject areas for LIS professional's development

and competencies to thrive in this new context. For this, respondents were asked to rate their preferred subject areas for professional development. They were provided several subject areas to rate from most preferred, less preferred or not preferred. Figure 6 summarizes the data.

Figure 6 indicated that 65(86.6%) of respondents have a strong preference for technical and management courses related to libraries, archives, or museums, hence, suggesting a high demand for these topics in their professional development, while only 10(13.3%) rated it as less preferred.

Information technology skills are the second highly preferred subject, chosen by 59(78.6%), indicating a strong demand for IT-related knowledge in the field of information professionals. However, 20(26.6%) said less preferred, while only 5(6.6%) said not preferred.

Information literacy skills are the third highly preferred among respondents 49(65.3%) indicating the importance of these skills in their field, while 26(34.6%) said less preferred. Additionally, a remarkable result was recorded on the subject of the marketing of information services and resources, which was highly preferred by sizeable respondents 45(60%). This suggests a strong interest in this area.

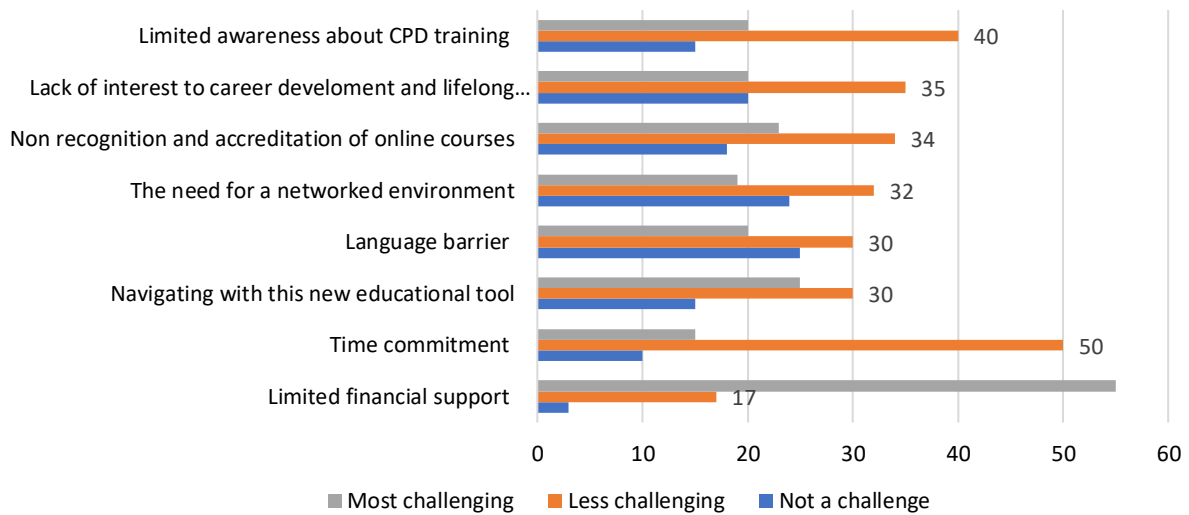


Figure 7. Challenges facing information professionals in professional development training

Language and communication skills are generally preferred by a majority of respondents 44(58.6%), with a significant ratio of 36(48%) finding them less preferred. However, life and personal development skills are somewhat preferred by 40(53.3%), but there is a significant proportion of 30(40%) who find them less preferred. Furthermore, Research skills are moderately preferred by 40(53.3%), with a balanced response from 34(45.3%) respondents.

Interestingly, academic writing and publishing were rated as the least preferred subject by 38(50.6%), nearly followed by 35(46.6%) who mostly preferred it, while 2(2.6%) said not preferred. This was the same as with project management which was moderately preferred by 33(44%), followed by 30(40%) who felt less preferred and 12(16%) said not preferred at all.

Surprisingly, emerging technology skills also have mixed preferences, with a nearly equal split between most preferred 38(50.6%), and less preferred 35(46.6%), while 2(2.6%) said not preferred. Business and entrepreneurship skills are moderately preferred by 32(42.6%), with an almost similar number of respondents 33(44%) finding them less preferred, while 10(13.3%) said not preferred. Lastly, pedagogical skills are generally less preferred by the majority with a notable majority 45(60%) of respondents. This was followed by 23(30.6%) finding them less preferred, while 7(9.3%) not preferred at all.

Finally, respondents were asked to rate the challenges facing information professionals in meeting their continuous training development expectations. Specifically, they were asked to record the challenges that they encounter when considering MOOCs for career development. The challenges were listed and they were given options to say either a challenge, not challenging, or most challenging. Figure 7 summarizes the statistical data.

Figure 7 indicates that the majority 55(73.3%) of respondents found limited financial support to be the most challenging issue when accessing professional development while 17(22.6%) considered it less challenging. The results also show that a notable portion 25(33.3%) faces challenges in navigating educational tools, while 30(40%) opined it was less challenging.

Although some 20(26.6%) respondents find lack of interest in career development and lifelong learning as the most challenging, a substantial portion 35(46.6%) expresses less

difficulty and 20(26.6%) did not see it as a challenge. Furthermore, language barriers impact a portion 20(26.6%) of respondents. However, 30(40%) saw language as less challenging, and 25(33.3%) did not see it as a challenge.

Despite some challenges, the majority 40(53.3%), were aware of professional development opportunities and felt that limited awareness about it was less challenging, however, 20(26.6%) consider it as the most challenging.

It is apparent from this data that while a portion 32(42.6%) finds it challenging, a significant number 24(32%) consider a need for networked environment was less challenging. Finally, the results show that 34(45.3%) respondents felt that non-recognition and accreditation of online courses was less challenging, followed by 23(30.6%) who consider it as the most challenging, while 18(24%) see it as not a challenge.

DISCUSSION

This study examined a diverse group of respondents with varying educational backgrounds, primarily holding first degrees and diplomas, suggesting a notable presence of individuals entering the field with lower-level qualifications. This distribution underscores the potential appeal of MOOCs for individuals with diverse educational backgrounds, serving as an accessible avenue for career development and education in the information profession, particularly for those lacking higher-level qualifications. Notably, the study revealed a small percentage of respondents with master's degrees, prompting a query into the prevalence of traditional formal education versus online courses in the information profession.

Examining the respondents' work experience, the results indicated a predominant presence of experienced information professionals, with over 60% possessing more than ten years of experience. This suggests that the respondents can offer valuable insights based on their extensive work history. Furthermore, a significant number of respondents with over forty years of experience suggests a diverse range of career development stages, potentially providing insights into trends, challenges, and changes in the information profession.

The inclusion of less experienced professionals in the study enhances its value by capturing the perspectives of newcomers, particularly regarding modern career paths, including the utilization of MOOCs. Turning attention to training opportunities, the findings revealed a varied engagement in professional development, from regular participants to those who have not attended in any training. Despite the availability of numerous professional training opportunities, the study found that some respondents, even with more than four years of working experience, had limited exposure to such opportunities. This highlights a potential gap in career development for information professionals and suggests a need for enhancing opportunities, possibly through MOOCs or other avenues.

The findings of this study indicate a moderate level of commitment from management in encouraging staff to seek and apply for CPD, as well as the management's involvement in identifying staff training development needs. These results suggesting potential support for information professionals to capitalize on opportunities such as MOOCs and other career development options.

In contrast, a majority of respondents disagreed with statements related to management communication of staff professional development plans, provision of adequate financial resources, conduct of relevant and cost-effective training, and joint evaluation of CPD outcomes against organizational plans. These findings raise concerns about the organization's overall commitment to the development of information professionals. The

lack of support in these key areas could potentially impede the effectiveness of MOOCs and other career development initiatives within the organization. The staff's disagreement highlights the need for changes in management practices, policies, or communication strategies to better align with the career development needs and expectations of information professionals, possibly posing a barrier to successful MOOCs-based career development programs.

During an interview with the head of the library, reasons contributing to these perceptions were discussed, including a tendency to neglect information professionals' development and a lack of clear communication and transparency, leading to confusion and frustration among staff. As one key informant put that "We acknowledge a historical tendency to overlook the development needs of our information professionals. Recognizing this shortfall is the first step towards a transformative commitment to prioritizing and nurturing the continuous growth of our staff."¹

However, a minority of respondents provided varied perceptions, with some agreeing and others disagreeing or remaining neutral on various items. This variability suggests that while some individuals may benefit from management support, others may not experience the same level of support. Neutral responses may indicate a lack of clear opinion or uncertainty about management's plans for staff development. This ambiguity in responses may signal a broader issue, such as a lack of awareness, inadequate communication within the organization, or a non-participatory approach to staff development planning.

As regards the preference for professional training methods, the significant preference is for face-to-face training. This suggests that many information professionals with moderate to extensive experience value traditional in-person interactions for their career development. This preference probably indicates that there is still a strong demand for traditional, classroom-style training in this field. However, a quarter of respondents preferred online training methods, which include MOOCs and webinars. This preference implies that a significant number of information professionals recognize the convenience and flexibility offered by online platforms for their career development. This result indicates that MOOCs have gained popularity and credibility among information professionals with several years of experience, and there may be opportunities to further promote and enhance MOOC offerings in information studies. The findings of the current study are in line with those of Abdil-Khan (2023) that MOOCs helped students and staff expand their knowledge capacity and stay up with educational developments.

The results also indicate that 15% of respondents preferred blended training methods. This implies that some information professionals value a combination of face-to-face and online elements in their training. This study supports the findings of Alammery, Sheard and Carbone (2014) that when well-designed, blended approaches can combine face-to-face and online learning opportunities in such a way that they utilize the benefits of each mode while avoiding their disadvantages or challenges. This preference highlights the potential benefits of designing career development programs for information professionals that integrate both traditional and online components.

During interviews, a probing question was asked to explore the reasons behind their preferences. Various responses were provided based on personal interest and learning objectives. For example, a majority of interviewees mentioned receiving an allowance and per diem as significant reasons for attending face-to-face training. Other reasons provided for traditional methods are live and interactive learning, networking opportunities, hands-on experience and immediate clarification from instructors. One key informant stated "I prefer face-to-face training because it allows for interactive learning. I can ask questions,

participate in discussions, and get immediate feedback from the instructor.” Additionally, another interviewee commented that “face-to-face training provides great networking opportunities. I can meet and connect with fellow participants, which can be valuable for my career.”

Flexibility, cost-effectiveness, accessibility and self-paced learning were mentioned as the reasons for online training preference. One interviewee commented “online courses are more cost-effective and affordable, there are no travel or accommodation expenses. Likewise, one can access courses from top institutions worldwide without geographical limitations.” Moreover, blended courses are said to combine the advantages of both face-to-face and online methods, they reduce travel expenses and provide balanced learning. Another interviewee emphasized that “blended training reduces the need for extensive travel while still providing the benefits of in-person instruction. This is especially important for people with busy schedules.” These results are consistent with the findings of Abdala, Calilung and Oruga (2023) who showcase the efforts made by librarians and information professionals in enrolling in online courses and e-learning, participating in on-the-job training and practical experience, attending conferences and workshops, networking and collaborating with peers, engaging in mentorship programs, accessing high-quality training programs, self-paced online learning, acquiring professional certifications, and collaborating with IT professionals to stay updated and proficient in the digital realm.

The discussion on familiarity with MOOCs among information professionals reveals a noteworthy lack of awareness or knowledge among a significant portion of respondents. This deficiency suggests a potential gap in understanding the benefits and opportunities that MOOCs can provide for career development in the information sciences.

Approximately a quarter of respondents claim some level of awareness or knowledge about MOOCs. However, the designation of “somewhat familiar” implies a less-than-comprehensive understanding, making this group a potential target for educational initiatives or resources aimed at deepening their knowledge of MOOCs and their relevance to career development. Conversely, a small percentage of respondents reported being very familiar with MOOCs, indicating a subset of information professionals who are well-versed in the concept and may have utilized MOOCs for career development. These individuals could potentially serve as advocates or mentors for others within the information professional community interested in exploring MOOCs.

Neutral responses from some participants indicate a lack of a strong opinion or familiarity with MOOCs. This suggests that this group may benefit from additional information or exposure to MOOCs to form an informed opinion about their relevance to career development.

It can be said that there is a need for awareness-building efforts and educational initiatives within the information professional community. Similarly, the small percentage of very familiar respondents highlights the need for more targeted efforts to promote the benefits of MOOCs for career development in this field.

This study highlights a low level of participation in MOOCs among information professionals, with the majority of respondents having never enrolled in online courses. This suggests that a significant portion of information professionals may not be actively leveraging MOOCs for career development, aligning with Altahi's (2021) observation of low MOOCs adoption in developing countries, potentially attributed to a lack of awareness.

For those engaged in MOOCs, the majority participate on a limited basis, indicating that while some information professionals recognize the potential benefits of MOOCs, their

engagement is not consistent. The dominance of Coursera as the preferred platform is a noteworthy finding, suggesting its popularity, strong presence, and potential trustworthiness among information professionals. This aligns with the research of Bitakou, Ntaliani, Demestichas, and Costopoulou (2023) on popular MOOCs platforms and Adetayo's (2023) identification of Coursera and EdX as common platforms for library science-related courses. Sawant (2017) further supported this trend, listing Coursera and EdX as providers of non-library and information science courses useful for LIS professionals.

Research4life emerged as another significant platform, likely indicating information professionals' recognition of its value for research-oriented courses and access to materials. The use of AuthorAid suggests an awareness of the importance of honing research and writing skills, particularly for supporting research activities in academic settings.

In contrast, MOOCs4dev showed lower usage, implying limited awareness or course offerings within the field of information professionals. Futurelearn and Udemy, utilized by a minority of respondents, suggest a subset of information professionals exploring courses beyond their immediate professional scope, indicating a desire to broaden their knowledge base. Overall, these findings underscore the need for increased awareness and targeted efforts to promote the benefits of MOOCs within the information professional community.

As regards the preference for subject areas for LIS professionals' development, the findings indicate a consensus among respondents in favor of technical and management courses, information literacy skills, marketing of information resources, language and communication skills, and information technology skills as highly preferred subjects for professional development. However, preferences for other subjects vary, reflecting the diverse interests and needs within the profession.

In the context of the evolving information profession, the concept of “embedded information professionals” is emphasized, representing a strategic approach to integrate information specialists into various aspects of institutional operations. This integration aims to enhance access, preservation, and utilization of resources and services. Pereira (2022) recommended attending seminars and short-term courses for self-education to acquire necessary skills. The term “*embedded information professionals*” is further defined as those actively engaging with learners within an online learning environment, such as MOOCs platforms. These professionals play a vital role in facilitating information literacy, research skills, and resource access, underscoring the importance of utilizing MOOCs for relevant professional development.

Widen and Krongvist-Berg (2014) suggested that IT skills, research management skills, pedagogical skills, communication and marketing skills, collection management skills, and project management skills are the six core skills expected from future librarians. Similarly, the study by Abdala, Calilung, and Oruga (2023) indicates a strong consensus that digital competencies and skills, including data analysis, information security, content management, user experience design, information retrieval, and digital literacy, are crucial for information professionals in the digital age.

Discussing the issue of challenges facing information professionals in meeting their continuous professional development, the current study confirms that limited financial support is the most significant barrier associated with traditional methods of professional development. Furthermore, the lack of desire, motivation and interest in career development and lifelong learning is another big challenge encountered by information professionals when considering MOOCs for career development. While motivation and desire are the emotional commitment to learning, the study of Abdil-Khan (2023) noted the lack of time,

motivation and attention, as well as difficulties like inadequate course material and a lack of physical connection as significant barriers to the widespread adoption of MOOCs.

Discussing the challenges associated with implementation of professional development programs for LIS professionals, human resources officers had different opinions. One officer opined on the lack of a career development culture. He commented that "it is obvious that majority of staff lack the career and self-development culture". Another officer viewed that "there seems to be a lack of awareness among staff about the numerous professional development opportunities available. The majority may not be fully informed about the potential benefits and avenues for career advancement, contributing to the observed absence of a career and self-development culture."

A different perspective was shared by an officer who commented that "our work environment tends to prioritize immediate tasks and daily operations, leaving little room for long-term career planning or self-development". Another officer highlighted that "while individual responsibility is crucial, there appears to be a gap in organizational support for career and self-development initiatives. Limited resources and structured programs may hinder staff from actively engaging in continuous learning and professional growth."

The perspectives from the human resource officers provide a multifaceted view regarding this matter. The lack of a career development culture within the organization suggests a systemic issue that may stem from organizational culture or policies. This lack of a supportive environment for career growth can significantly hinder employees' motivation to engage in self-development initiatives and learning opportunities. Likewise, detrimental is a potential communication gap regarding available professional development opportunities, indicating a need for improved dissemination of information within the organization.

CONCLUSION AND RECOMMENDATION

In conclusion, this study demonstrates that there is a wide range of engagement levels in professional development, with a notable proportion of respondents having limited exposure to training opportunities. This highlights a potential gap in career development opportunities for information professionals, which could have implications for their skillsets and competencies in a rapidly evolving field.

With regard to administration, the dissatisfaction with management practices related to staff development, including communication of professional development plans, allocation of financial resources, provision of relevant and cost-effective training, and joint evaluation of CPD outcomes undermines the journey to professional development. The lack of support in these critical areas could potentially hinder the effectiveness of MOOCs-based career development initiatives.

The findings also reflect a diverse range of preferences among information professionals with moderate to extensive experience in the context of career development through MOOCs. While traditional face-to-face training remains popular, there is a notable interest in online methods, including MOOCs. Additionally, the preference for blended training suggests opportunities for innovative program designs that cater to a variety of learning preferences and needs within this professional community.

It is evident that there is a considerable lack of awareness or knowledge about this valuable resource within the professional community. This deficiency in understanding potentially signifies a missed opportunity for information professionals to leverage the

benefits and opportunities that MOOCs can offer for their career development in the field of information sciences.

Furthermore, it is evident that limited financial support remains a terrible barrier, particularly when traditional methods of professional development are considered. Another significant challenge identified in this study is the lack of interest in career development and lifelong learning among a substantial portion of information professionals.

Concerning the research approach, the combination of qualitative and quantitative approaches in this study offered distinct advantages. The researchers achieved a comprehensive understanding of the complex phenomenon under investigation, capturing both the depth and breadth of information professionals' engagement with MOOCs, including the different experiences, attitudes, and motivations of information professionals towards MOOCs.

Based on the study findings, it is believed that the following recommendations may help information professionals make an effective utilization of MOOCs for their career development, thereby strengthening the information profession as a whole.

There is a clear need for improvement in management's commitment to staff development. Organizations should consider revising their policies, enhancing communication, and fostering a more participatory approach to staff development planning.

Establishing awareness campaigns within the information profession community to inform professionals about the availability and benefits of MOOCs. This should be done alongside advocating for management to support their staff by providing financial assistance for relevant courses. Also, management should identify and promote cost-effective MOOCs options, scholarships, or free courses to make professional development more accessible.

Innovative programs that allow for flexible and personalized learning should be designed including blended training programs that combine traditional face-to-face training with online MOOCs to accommodate various learning preferences.

Human resource officers should take an active role in supporting and incentivizing ongoing professional growth among staff by promoting and encouraging the culture of self-career development and lifelong learning within the information profession. Organizations should also assess and revamp their training strategies to ensure that information professionals have the chance to stay updated and acquire new skills.

Professional associations in collaboration with educational institutions should recognize and value online courses in the information profession. They should also collaborate with MOOCs providers to develop tailored courses and programs that cater to the skillset and competency requirements of information professionals. The continuous evaluation of the impact of MOOCs-based career development initiatives on information professionals' skills and competencies should also be considered.

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APPENDIX. QUESTIONNAIRE GUIDE

Letter of Introduction

We are conducting research to examine the Continuing Professional Development through Massive Open Online Courses: This questionnaire is intending to seek your opinions, views, comments and suggestions on this topic. Filling this questionnaire may take about 25 minutes only. This study is entirely for academic purpose, however, the data may be used for future research purposes such as conference presentation and journal publication. Therefore, you are guaranteed that the information you provide will be kept as confidential and your personal identification will be anonymised. Your voluntary participation is highly appreciated. Thank you!

1. Name of your organization: _____

2. What is your job title? _____

3. What is your level of education?

Level of Education	Response
PhD	
Masters	
Undergraduate	
Diploma	
Certificate	

4. For how long have you been working here?

Years	Response
1 to 3	
4 to 6	
7 to 10	
More than 10 years	

5. How many times have you attended continuous professional training?

Times	Response
Never	
Once	
Twice	
Thrice	
More than thrice	

6. What do management do to show commitment to staff continuous development?

1 strongly agree – 5 strongly disagree

S/No	Commitment	1	2	3	4	5
1	Develop and communicate staff professional development plans, guideline and implementation strategies					

2	Provide encouragement for CPD and recognition of its benefits and achievements in the provision of effective library and information services					
3	Involve library staff in identifying training development needs					
4	Ensure that adequate resources are available for effective training development implementation					
5	Ensure that sufficient, relevant and cost effective CPD is carried out for each information professionals					
6	Evaluate, jointly with employees the results and benefit of CPD carried out against defined plans and objectives					

7. What is your preferred training method?

S/No.	Method	Response
1	Traditional/face to face method (seminar, workshop, conference, in-service training, on-job training)	
2	Online training method (MOOCs, webinars, etc.)	
3	Blended training	

7.1 What are the reasons for your preference?

8. How familiar are you with massive open online courses?

S/No	Level of familiarity	Response
1	Non familiar	
2	Less familiar	
3	Neutral	
4	Familiar	
5	Very familiar	

9. How many times have you joined MOOCs training?

S/No	Times	Response
1	Never joined	
2	Once	

3	Twice	
4	Thrice	
5	More than thrice	

10. In which online platform have you participated?

S/No	Platform	Response
1	Coursera	
2	Edx	
3	Udacity	
4	Udemy	
5	Futurelearn	
6	MOOCs4dev	
7	Research4life	
8	AuthorAID	

11. How would you rate your preferred subjects in MOOC trainings that you think may add value to your profession?

S/No	Subjects	Most Preferred	Less preferred	Not preferred
1	Library/archive/museums technical and managerial skills			
2	Information literacy skills			
3	Life and personal development skills			
4	Academic writing and publishing skills			
5	Project management skills			
6	Emerging technologies			
7	Marketing skills			
8	Languages and communication skills			
9	Business and entrepreneurship skills			
10	Research skills			
11	Pedagogy skills			
12	Legal and human rights skills			
13	Information technology skills			

12. How would you rate the challenges facing you in meeting your continuous training development expectation?

S/No	Challenges	Not a challenge	Less challenge	Most challenge
1	Limited financial support			
2	Time commitment			

3	Navigating with this new educational tool			
4	Language barrier			
5	The need for a networked environment			
6	Non recognition and accreditation of online courses			
7	Lack of interest to CPD			
8	Limited awareness about CPD training			