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Perception of Academic Staff Toward Barriers, Incentives, and Benefits of the Open Educational Resources (OER) Network (SHMS) at Saudi Universities

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Perception of Academic Staff Toward Barriers, Incentives, and Benefits of the Open Educational Resources (OER) Network (SHMS) at Saudi Universities

Sani Alkhasawneh

Abstract: The Open Educational Resources (OER) movement urges academic staff to share educational materials freely online for everyone to use, whether you are a professor, student, or self-learner. Since the OER movement is still in its infancy in Saudi Arabia, there is an essential need to provide a deep understanding of the perception of academic staff toward OER. This study has focused on the exploration of barriers, incentives, as well as benefits of OER from the point of view of academic staff Data were collected from an online survey carried out during the 2018-2019 academic year at the University of Bisha in Saudi Arabia. Results showed that the majority of academic staff has a positive attitude toward publishing their material on OER; however, they have also raised the issue of some challenges existing. One of the main barriers that hinder academic staff from using OER is a lack of technical equipment and technical support. The study recommended that there is a need to raise the adoption of OER and eliminate all barriers that hinder its use. Gender was not associated with academic staff perception about usage OER, but Academic Position was associated with academic staff perception about usage OER.

Keywords: Open Educational Resources (OER), barriers, incentives, benefits

Introduction

The rapid development of communication tools has facilitated the process of communication in the world as well as removing all barriers and obstacles that may hinder the spread of any information anywhere. This spread had been disorganized and copyright had been sometimes not respected until the Open Educational Resources movement (OER) emerged. In the late 1990s, Open Educational Resources (OER) appeared and was supported by many international organizations such as UNESCO; OECD; the European Union; the World Bank; and the Commonwealth of Learning (Ganapathi, 2018). One of the earliest experiments was the Massachusetts Institute of Technology's (MIT) Open Course Ware (OCW), which played an influential role in the rise of the movement around the world. Although it was not the first, it was widespread as most of their course materials were published free of charge on the Web in 2001. Many world-renowned universities followed MIT's example in sharing their course materials online (KreljaKurelovic, 2016).

In Saudi Arabia, the OER movement effectively started when the National Center for e-Learning was established on 3/10/2017. The Center for e-Learning adapted the OER movement in Saudi Arabia through the creation of Saudi Open Educational Resources in 2017 under the name of Open Educational Resources (OER) Network (SHMS). SHMS is a national program aimed at enriching educational content in order to support education (National Center for e-Learning, 2017b). Moreover, the National Center for e-learning expounded that SHMS has programs, which aim for a sustainable path for partnership in design, improvement, maintenance and enhanced quality of digital educational content. It also contributes to providing greater educational opportunities for Arabic speakers. The Saudi Resources Network Initiative is the National Open Content Education Program, a national platform that seeks to find safe and reliable knowledge for all students, teachers, faculty, parents and interested people without the need to sign in to SHMS. Although the OER movement commenced early in Saudi Arabia, it has received widespread attention at the level of universities and from academic staff According to the first report of the National Center for e-Learning, issued on 11/5/2017, SHMS started with 13 from 25 universities spread throughout the Kingdom. Subsequently, 61 academic staff obtained permanent membership of SHMS, while 35000 educational materials were published in SHMS (National Center for e-Learning, 2017). These figures increased remarkably according to the sixth report issued on 27/7/2018. The number of participating universities increased to 15, the number of academic staff to 1786 SHMS members, and the number of published educational materials reached 180000 (National Center for e-Learning, 2018).To achieve a widespread OER movement, we need to identify effectively key elements such as possible barriers,

incentives, and benefits (Kursun, Cagiltay & Can, 2014). In order to contribute to the success of SHMS, it is necessary to study the barriers, incentives, and benefits from the point of view of academic staff s in universities. Academic staffs have a major impact on the implementation and management of OER projects; hence, it is necessary to understand their perspective toward the OER movement. In fact, academic staffs are the owners and creators of educational materials. From this point, this study focused on understanding the perception of academic staff toward the OER movement in addition to relevant barriers, incentives, and benefits. Various researchers have investigated the factors affecting the implementation of OER. Nevertheless, many of them focused on the experience of English speakers and English educational materials (Cobo, 2013). There is a need to investigate possible barriers, incentives, and benefits of OER to Arabic speakers in Arab countries, who recently adopted the Arabic Open Educational Resources and have made it available to their academic staff at all universities. Arab countries need many studies related to OER in order to understand clearly the barriers, incentives, and benefits so that we can develop, support, and disseminate the movement of OER in Arab countries generally.

Consequently, the objective of this study is to investigate the perceptions of academic staff s in Saudi universities towards incentives, barriers, and benefits of publishing their course materials free. This study has precisely three specific objectives: first, to identify the perceived barriers to academic staff in sharing their course materials; second, to determine perceived incentives for academic staff to share their course materials; and finally, to identify perceived benefits for academic staff when sharing their course materials.

Review of literature

Several studies have investigated the factors that may result in the usability of OER. Many of these studies have divided the factors into three issues, namely: incentives, barriers, and benefits respectively. (Kursun, Cagiltay & Can, 2014; Mtebe & Raisamo, 2014; Zou, 2016)

Zou (2016) studied the experience of academic staff when integrating OER materials in an online graduate reading pedagogy course. This study focused on the reflections of academic staff concerning the benefits and barriers of teaching with OER. The researcher divided the barriers into, namely: Imbalanced Availability of Variety of Resources, Ineffective Organization of OER Websites, Insufficient Training in Using OER, and Inconsistency in the Level of Quality of OER. He also reported that benefits included: Reduction of Educational Costs, Wide and Easy Distribution of Educational Resources, revising and tailoring of the educational resources to better- fit with instructional needs. Finally, this study strongly recommends future research to in-

vestigate the implementation of the presented OER based on the aforementioned barriers and benefits.

For instance, Mtebe and Raisamo (2014) studied perceived barriers to the use of OER in higher education in developing countries. They reported that OER was able to extend access, decrease costs, and enhance the quality of education respectively. However, they argued that several challenges exist that could impede the adoption and use of these resources. These include lack of access to computers and the Internet, low Internet bandwidth, lack of policies, and lack of skills to create and/or use OER. Rolf (2012) who confirmed that the main barriers are lack of IT support and lack of understanding of copyright issues has also explored this in a prior study.

Over time, an extensive literature has developed regarding the perception of academic staff toward the use of OER. In November 2017, Panda and Santosh investigated the perceptions of the faculty of Indira Gandhi National Open University of India relating to OER. The results showed that there is a tremendous need for training on intellectual property rights, copyright, as well as production and use of OER. The results also indicated that there should be an institutional policy on OER regarding the efficiency of its use. In the light of reported results of Panda and Santosh, it is conceivable that major barriers affecting the use of OER comprise training on property copyright and development of the ability of academic staff to produce and compose educational material on OER.

Only a few works in the extant literature demonstrate the perception of academic staff towards OER in the case of non-English speakers. Kursun, Cagiltay, and Can (2014) claimed that there are many current studies, which study the OER experience of English speaking institutions while ignoring the perspectives of non-English speakers toward OER. Kursun, Cagiltay, and Can conducted a study to determine the perceptions of academic staff toward OER in relation to Turkish speakers. They developed a survey based on ten (10) semi-structured interviews with academics and divided the instrument into incentives, barriers, and benefits respectively. Kursun, Cagiltay, and Can recommended future research directed at a similar population in another country.

Previous studies have focused almost exclusively on experiences within developed countries. Similarly, Ashadevi and MuthamilSelvi (2017) concluded that the experience of developing countries had been previously assessed only to a very limited extent because the OER phenomenon was still very recent in those countries. They pointed out that since the progress of OER was still in the early stages of development in developing countries, additional research is needed on issues, such as barriers, practices and business models to expand their opportunities. On the other hand, KreljaKurelović (2018) suggested that there is a strong need to understand the perspective of

academic staff toward OER. It is not enough to simply develop OER, but it is also necessary to understand clearly the mindset of academic staff in order to achieve a positive attitude toward the use of OER.

To our knowledge, no prior studies have examined the perceptions of academic staff in Saudi universities towards incentives, barriers, and benefits of publishing their course materials free. As the authors noted earlier, further work is necessary for the future to more clearly understand the perceptions of academic staff toward OER in developing countries.

Research methodology

This study applied a process of survey research, one of the certified methods by which to provide a quantitative description of opinions and perceptions (Creswell, 2015). The target population was academic staff at universities. The University of Bisha was selected as the sample for the following reasons. The majority of SHMS members are from the University of Bisha, where total members of Shams number 157, 100 respectively. Within two semesters, the University of Bisha published 2770 educational materials. Currently, it has sixteen faculties and each faculty consists of several colleges with the enrolment of approximately 800 academic staff in the current academic year. The electronic survey was distributed to academic staff using their Blackboard account. 256 surveys were returned, including males (59%) and females (41%). Their academic titles were comprised as follows: assistant professor (68%), associate professor (10.2%); and instructors (8.6%). The table below gives a clear description of the participants in this study.

Table1 - Participants

Gender	f	%
Male	151	59
Female	105	41
Total	256	100
Academic Position		
Professor	12	4.7
Associate professor	26	10.2
Assistant professor	176	68.8
Instructor	20	7.8
Research assistant	22	8.6
Total	256	100

Table 2 - Amount of Digital Course Materials from Academic Staff (i.e.,.pdf,.doc,. swf etc.)

Items	f	%
All	25	9.76
A great proportion	65	25.39
About half	102	39.84
Small amount	49	19.14
None	15	5.85
Total	256	100

According to Table 2, the percentage of academic staff having digital course materials is 94.134 %, while the small percentage of academic staff that does not have any digital course materials is 5.85%. As shown in Table 3, the majority of academic staff (62.5%) intends to publish course materials via SHMS; while 35.54% of academic staff has already published course materials via SHMS.

Table 3 - Publishing Course Materials via SHMS

Items	F	%
Yes, I intend to publish	91	35.54
No, but I want to do	160	62.5
No, I do not intend to publish	5	1.95
Total	256	100

Instrumentation

The researcher has adopted an instrument from a Turkish study carried out by Kursun, Cagiltay, and Can (2014). This was interested in investigating faculty members' perceptions toward barriers, incentives, and benefits of the open educational resources (OER), specifically for non-English speakers. Kursun, et al. (2014) developed the questionnaire based on 10 semi-structured interviews with faculty who selected based on their experience publishing course materials. Furthermore, they conducted a series of unstructured interviews with UADMK university representatives, using a literature review to guide the writing of the questions. Then, Kursun, et al. (2014) checked the

content and face validity by nine experts. The experts were six Turkish OCW consortium executive members and three faculty and they conducted a pilot test conducted with 41 faculty. The final questionnaire consisted: general questions (7 items), barriers (13 items), incentives (16 items), benefits (17 items), and demographics (9 items). They used along a scale to increase the reliability and validity results (Krosnick & Fabrigar, 1997). The main questions used a 6- point, unipolar agreement scale format (6: Completely Agree to 1: Completely Disagree).

In this study, the researcher selected 36 items from Kursun, et al. (2014) questionnaire. The researcher translated those items. The final questionnaire consisted of five main sections: barriers (13 items), incentives (8 items), benefits (15 items), and demographics (4) items. Then, the questionnaire was translated into Arabic, and double-checked that the translation was done and six expert check face and content validity. The experts were four educational technology professors and tow Arabic language professors. According to the result of Cronbach's Alpha, the questionnaire reliability considered high which.856 was

Results

The main intention of this study is to gain an understanding of the perceptions of academic staff towards incentives, barriers, and benefits of publishing their course materials free. For this reason, the researchers divided the result into three parts, specifically: perceived barriers to sharing course materials, perceived incentives to sharing course materials; and perceived benefits to sharing course materials. The following findings illustrate the barriers to and benefits of using OER according to the view of academic staff.

Perceived barriers to sharing courses material

The result reveals that the greatest perceived barrier to using OER was gaining support from the particular university for publishing course materials. (M = 3.7930, SD = 1.15135). The academic staff also complained that they do not have the required hardware (computer, scanner, etc.) (M = 3.3438, SD = 1.36877). It was considered that the university should provide technical infrastructure to the academic staff (M =3.3125, SD=1.35328). On the other hand, finding enough time (M=2.0625, SD= 1.08646) and having a heavy course load (M=2.0938, SD=1.12677) were perceived as being the least important barriers. Table 4 below shows the mean and standard deviations for the barrier section of the questionnaire in descending order by mean scores.

Table 4 - Perceived Barriers to Sharing Course Materials

Items (Likert Scale: 1= Completely Disagree to 5= Completely Agree)	Mean	SD
There is / will be no support from my university for publishing course materials.	3.7930	1.15135
I do not have the required hardware (computer, scanner, etc.).	3.3438	1.36877
There is no necessary technical infrastructure at my university.	3.3125	1.35328
Faculty at my university do not/will not have willingness to share course materials.	3.2578	1.14615
It is risky to share my experiences with everyone in today's environment where competition is high.	3.1523	1.28194
I do not have the technical skills to develop digital materials.	3.0469	.98107
I do not think my university has a policy about publishing/ sharing course materials.	2.9922	1.11317
Sharing course materials with everyone will increase plagiarism.	2.9648	1.31161
I have / expect some problems protecting the intellectual property rights to my own materials.	2.6055	1.43233
I have / expect some problems providing the intellectual property rights to materials that do not belong to me.	2.4570	1.25484
There is / will be no required (necessary) incentives.	2.2891	1.21528
My course load is too heavy.	2.0938	1.12677
I do not have enough time.	2.0625	1.08646

Perceived incentives to sharing course materials

One of the greatest perceived incentives to OER for academic staff was the issue of sharing course materials not being compulsory (M= 3.0039, SD=1.26645). Required hardware such as computers, scanners or printers (M=2.1367, SD=1.24020) comprises another important incentive to share course materials. They also emphasized that it is necessary to inform of a change someone else makes to their materials (M=1.9102, SD=.99199). On the other hand, requirements for training and workshop programs (M=1.3594, SD=.69434) and rewarding material s development efforts at fac-

ulties (M=1.3984, SD=.66084) were not perceived as significant incentives. Table 5 below shows the mean and standard deviation for the incentives section of the questionnaire in descending order by mean scores.

Table 5 - Perceived Incentives to Sharing Course Materials

Items (Likert Scale: 1= Completely Disagree to 5= Completely Agree)	Mean	SD
Sharing course materials should be compulsory.	3.0039	1.26645
Hardware (computer, scanner, printer, etc.) should be provided to faculty for development of their course materials.	2.1367	1.24020
I should be informed when someone makes changes to any of my material.	1.9102	.99199
Course materials that I share should be protected from plagiarism.	1.6875	.81409
I should be informed about who uses my course materials.	1.6641	1.01963
Financial support (i.e., copyright fees) should be provided to faculty for developing course materials.	1.4297	.64697
Material development efforts of faculty should be rewarded with improved academic ranking.	1.3984	.66084
Trainings / workshops about material developments should be arranged for faculty.	1.3594	.69434

Perceived benefits of sharing course materials

The result indicates that there is a need to raise awareness among academic staff of the importance of OER where mean scores were lower than 1.9141. This is one of the greatest benefits of providing an environment where courses can be controlled (M=.9141, SD=.97841). This benefit was followed by providing transparency (M=1.8750, SD=.94142). Helping university students to decide on course enrolment (M=1.7813, SD=1.03232) was another important benefit for academic staff. Enhancing communication among academic staff (M=1.6875, SD=.74886) was another significant benefit. This was followed by increasing the number of Arabic resources on the Internet. (M=1.6680, SD=.90484). A further benefit was the result of encouraging academic staff to design their courses with the greatest of care (M=1.6641, SD=.84275). Enhancing the quality of education in universities (M=1.6445, SD=.68786) and supporting lifelong learning (M=1.6445, SD=.80355) were additional benefits, sharing the same mean score. Table 6 following provides the mean and standard deviations for the benefits section of the questionnaire in descending order by mean scores.

Table 6 - Perceived Benefits to Sharing Course Materials

Items (Likert Scale: 1= Completely Disagree to 5= Completely Agree)	Mean	SD
It provides an environment where courses can be controlled.	1.9141	.97841
It provides transparency.	1.8750	.94142
It helps university students to decide on course enrolment.	1.7813	1.03232
It enhances communication among academic staff.	1.6875	.74886
It increases the amount of Arabic resources on the Internet.	1.6680	.90484
It compels / encourages faculty to design their courses with the greatest of care.	1.6641	.84275
It enhances the quality of education in universities.	1.6445	.68786
It supports life-long learning.	1.6445	.80355
It builds scaffolds for inexperienced faculties to design their courses.	1.6367	.70074
It is / will be possible to benefit from an experienced faculty	1.6055	2.71608
It contributes to the advertisement of my university in the national and international arena.	1.6016	.76018
It helps faculties to archive their courses.	1.6016	.79053
It contributes to universities where educational resources are scarce	1.4570	.62474
It provides opportunities to see different aspects of any course	1.4336	.58367
More reliable resources will be available on the Internet, since universities are providing the content.	1.4258	.63428

The relationships between academic staffs' selected personal characteristics and their perceptions about possible barriers, incentive, and benefits to using OER

A t-test was conducted to investigate possible gender differences in academic staffs' perception about barriers, incentive, and benefits. As table 7 shows, there were no gender difference in academic staffs' perception about barriers, incentive, and benefits.

Table 7 - Distribution of participation academic staffs' perception about possible barriers, incentive, and benefits to OER usage by gender (n=256)

Factors	Gender	N	M	Sd	F	T	P
Perceived Barriers	Male	151	37.61	11.14	169.8	.477	.61
	Female	105	37.01	7.60			
Perceived Incentive	Male	151	14.71	4.44	254	.566	.57
	Female	105	14.40	4.07			
Perceived benefits	Male	151	22.17	7.31	254	1.14	.26
	Female	105	23.25	7.84			

One way Analysis of Variance (ANOVA) was carried out to explore possible academic position (professor, associate professor, assistant professor, instructor and research assistant) differences in academic staffs' perceptions about barriers, incentive, and benefits. As table 8 shows, there was an academic position difference on academic staffs' perception of barriers, incentive, and benefits. To illustrate, there was significant difference of academic position difference on academic staffs' perception of Perceived Barriers, Perceived Incentive and Perceived Benefits F (4.50, 181) =9.581, p =.00, F (4.50,.51) = 22.802, p = 00 and F (4, 42.83) = 7.078, p = 00.

Table 8 - Distribution of participation academic staffs' perception about possible barriers, incentive, and benefits to OER usage by academic position (n=256)

Factors	Academic position	N	M	SD	DF	F	P
Perceived Barriers	Professor	12	37.90	2.57	4.50,181	9.581	.00
	Associate professor	26	37.03	4.74			
	Assistant professor	176	39.1	9.10			
	Instructor	20	28.8	12.52			
	Research assistant	22	31.18	5.55			
Perceived Incentive	Professor	12	11.83	1.02	4.50,.51	22.802	.00
	Associate professor	26	14.807	5.05			
	Assistant professor	176	15.38	3.87			
	Instructor	20	13.60	5.50			
	Research assistant	22	10.36	3.28			
Perceived Benefits	Professor	12	24.16	6.83	4,42.83	7.078	.00
	Associate professor	26	20.07	6.01			
	Assistant professor	176	23.78	7.93			
	Instructor	20	18.20	4.137			
	Research assistant	22	21.68	7.77			

Discussion

The majority of participants have digital course materials, however, a small percentage (22.5%) have actually published their digital course materials via Shams. Most participants (75.25%) reported the intention to publish course materials via the web. This showed that there is a need to discover the participants' perceptions toward incentives, barriers, and benefits of publishing their course materials free. Kurelovic (2016) also confirmed the importance of studying the professors' perceptions toward OER, especially for non-English speakers and developing countries.

One of the most important barriers is that the universities do not support academic staff in publishing course materials via the web free. Likewise, Zou (2016) (who recommended providing support for academic staffs to use OER without necessarily supporting the action), proposed that they will not be motivated to publish their materials via OER. The findings also reported that there is a lack of technical equipment. This result is not consistent with many research studies conducted in developed countries. These include Kursun, Cagiltay, and Can (2014) and Rolfe (2012) who reported that the last important barrier s is the lack of hardware. On the other hand, Nti (2015) considered that the lack of necessary infrastructure (such as hardware) is one of the most important factors that may prevent the use of OER in developing countries. Similarly, Mtebe and Raisamo (2014) confirmed that the lack of access to computers and the Internet are the main barriers to the use of OER in higher education institutions (HEIs) in Tanzania. Moreover, the finding pointed out that the lack of IT support represents one of the greatest perceived barriers. Rolfe (2012) and Nti (2015) who recommended enhancing the publishing materials on the internet free through offers of powerful IT support this result. In addition, the study confirmed that academic staff has enough time and the course load is not too heavy. Similarly, Mtebe and Raisamo (2014) found that the majority of respondents (55%) felt that lack of time was not a hindrance factor. It can be concluded that action must be taken to eliminate barriers that prevent sharing of course materials by OER, especially since the majority of academic staff already have digital course materials and enough time. The greatest perceived incentive for sharing of course materials is that sharing materials is not compulsory. Conversely, this result is not consistent with the findings of the study of Kursun, Cagiltay, and Can (2014). The authors found that sharing materials not being compulsory was not found to be a significant incentive in higher education in Turkey. The finding agreed with those of Mtebe and Raisamo (2014) and Nti (2015) in which the provision of technical equipment is found to be an important incentive in higher education in developing countries. The finding also revealed that it is necessary to inform of a change someone another person

makes to a material of an academic. In the same way, Kursun, Cagiltay and Can (2014) reported that it is important to inform about a change someone else makes to their one's own materials. Academic literature and international organizations' reports have documented and elucidated several potential benefits of the OER which are consistent with the benefits derived from this study (Kursun, Cagiltay & Can, 2014; UNESCO, 2018; Zou, 2016). Equally, the most important perceived benefit for sharing course materials was that the OER provided an environment where courses can be controlled. This benefit was followed by that of offering transparency. Helping university students to decide on course enrollment was another important benefit for academic staff. Enhancing communication among academic staff was the next benefit. This was followed by increasing the number of Arabic resources on the Internet. Subsequently, the academic staff has been encouraged s to design their courses with the greatest of care. Enhancing the quality of education in universities and supporting lifelong learning comprised the subsequent benefit, sharing the same mean score. As can be seen, the result indicates that there is a need to raise the culture of publishing educational materials via OER (as well as enunciating the benefits of OER), as most members have digital educational materials but have not yet published them.

Finally, the study investigates the relationship between perceived barriers, perceived incentive, and perceived benefits and user characteristics. The result of this study approved there are no gender differences in OER usage, because of equal participation of male and female academic staff in higher education in Saudi Arabia. As to academic position, the finding showed that assistant professor, professor, and associate professor are more familiar with OER than the instructor and research assistant. It is possible that they have more digital course materials due to their high degree and their interest in teaching students in advanced stages, unlike instructor and research assistant. The research assistant does not teach and the instructor teaches general courses for freshmen who are not familiar with OER (Hu, Li & Huang, 2015).

Conclusion

It can be concluded that there are many challenges that hinder academic staff from publishing their digital materials via OER, especially in developing countries where the program is still in the infancy stage. Accordingly, there is a need to eliminate these obstacles and disseminate the potential benefits of OER among academic staff (especially Arabic language resources). In fact, the OER is a relatively young movement in Saudi Arabia; hence, there is a paucity of research studies in this field. For this reason, the quantity and quality of research studies should be conducted on a larger scale to more deeply understand OER use and enhance its usability. This study suggested

that there is a strong need for further research exploring the academic staff's perception of OER influence their Open Educational Practices (OEP), especially that OER movements have been recently adopted in Arabic countries.

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