

Developing training material for novice information portal users

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ABSTRACT

Background: Knowledge portals are critical applications that are often used in different forms of organisations, like educational institutions, where generation and consumption of information and knowledge are among their main activities.

Objective: This project aims to determine what training material will be suitable to engage and support the learning of novice knowledge portal users.

Method: The research used a pre-test and a post-test as a sample method. Both the pre-test and post-test consisted of 57 first year information portals students. The data collection instrument for this project was a pre-test, intervention, and a post-test. The data analysis tools used for the research was Atlas.ti and content analysis which are reliable research software tools. As such, a pre-test was written to determine what training material will be suitable to engage and support the learning of novice knowledge portal users. This pre-test was also used to determine the knowledge before the intervention. Furthermore, the post-test was also used to ascertain the effectiveness of the training material.

Results: The findings of this study revealed that most students are not entirely aware of knowledge portals. The majority of students understand the basics of knowledge portals. However, they still require an intense training for them to understand the use of knowledge portals and the portal features.

Conclusion: This research project highlighted the fact that most students do not have much knowledge on the use and the technicality behind the use of knowledge portals. Furthermore, although some students were able to access and log in the knowledge portals practices, there was a slight improvement after the post-test after they have engaged in the training. The use of knowledge portals by novice users should be further investigated to determine whether the problem lies with the lack of access to information or the ignorant of novice users or a lack of a solid training material.

Keywords: Knowledge portals, training material, novice users, information, and intervention.

1 INTRODUCTION

Cutting edge technology has opened numerous opportunities for business and academic institutions to create a central point repository for people to gain access to well organised and timely information. Knowledge portal users are accessing numerous forms of content developed within the organisation, using internal and external information resources and services via their websites (Morrison, 2012:76). Savolainen (2015:20) believes that the application of knowledge portals is fundamental to any organisation as it helps to ensure that users are interactive and can share vital information.

Savolainen (2015:28) further explains that knowledge portals utilised by information users as learning gateways can set up the information administration part. It is more common for an organisation to find the majority of employees who are aware of what knowledge portals are, but it is often few who can make use of them. Therefore, the organisation needs to invest more time in developing a pool of knowledge that can be directed at improving employee's capacity on how to use the knowledge portals.

Knowledge portals can be enhanced to meet institutional goals, and it was found that quite often the users are not well equipped on how to use knowledge portals (Savolainen, 2015:28). Smith (2013:15) viewed knowledge portals as essential entryways to institutional information sharing and integration of its resources given that novice users were well trained and equipped with the necessary guidelines on how to use them.

According to Raynson (2015:33) there are too many sites that have sources of information rather than the information itself, making it difficult for knowledge portal users to navigate their way through the desired content. Rahman (2013:19) also state that although knowledge portals offer access to a variety of information over the Internet, by allowing users to select, sort and share different information, there is a need to train users on how to interpret, share and manage the information online.

Meddley (2014:43) outlined that users can access different kinds of portals using the web as every portal has a site address. However, the content of the portals, when the users have logged in, creates challenges as portals are not designed to fulfill the same purpose. Overall, the portal model of information management and distribution has the ability to reduce information overload in organisations. Furthermore, it has major potential that can be used within the provision of information services whenever information specialists target individual end-users (Raynson, 2015:33). The proposed research focused on testing the knowledge capacity of first-year information portals students on knowledge portals to determine the suitable training material for novice knowledge portal users (Ruggles, 2014:22).

Furthermore, despite the opportunities provided to enhance the knowledge arena, there is still a knowledge gap, because certain people lack the knowledge and the capacity to use this knowledge portal to fulfill their designated duties (Prusak, 2015:40). The research was conducted on the first year information portal students, where a pre-test was developed and written to determine what training material will be suitable to engage and support the learning of novice knowledge portal users.

The training materials developed incorporates all the guidelines that novice users' needs based on the information collected, this implies that training manuals were built on information gathered and contained all the necessary improvements (Keina, 2016:40). As such, the post-test was also written to depict the training material's strengths and weakness as an intervention for novice users (Ruggles, 2014:18).

2 RESEARCH METHODOLOGIES

For the purpose of this research, a non-probability sampling was used. The sample size is 57 first year information portals, students. A non-probability sampling procedure was accordingly selected for the identification of novice knowledge portal users because the researcher had no guarantee that the first-year information portals students have an equal chance of being chosen for this particular study. The sampling technique is purposive sampling because the researcher has chosen first-year information portal students within a population group to use them as part of the project with aims of determining the current capabilities of novice users. The selected data analysis tools were Atlas.ti and content analysis which assisted the researcher to ascertain the theme of the results along with the main trends from the data collected.

The researcher at first aimed to determine the current capabilities of the information portals through a pre-test which was given to the students. The researcher used the same information to develop the training material and introduced the training material to the students as an intervention before opting for the post-test. The post-test assisted the researcher in determining the knowledge after the students have engaged with the training. Thus, the research is generating new information to build a suitable training material (Saunders et al., 2009:241).

2.1 Data collection techniques

The data collection instrument is a pre-test, an intervention and a post-test (Walker, 2014:24). The research aim was to determine whether the novice users understand and can use knowledge portals, to develop a suitable training material. The pre-test allowed the researcher to gain an in-depth understanding of whether the students understand and can use knowledge portals or not. The intervention was then utilised in the form of a training material. During the intervention, students were taught about the concept and use of knowledge portals specifically in areas they did not understand. The post-test allowed the researcher to gain more insight from the students after they have engaged with the training material, thus assisting the researcher in determining the credibility of the training material (Barret, 2012:33).

2.2 Data analysis

To support the analysis and interpretation of the data collected, the qualitative descriptive content analysis was conducted using Atlas.ti to determine the relevant data to address the research objectives. This tool allowed the researcher to have an analytical stance using visualisation tools designed to open new interpretative views on the study. The researcher used content analysis to systematically understand if whether students understand what knowledge portal is and if they can use it (Barret, 2012:33).

To answer the research questions, the data collected from the students was systematically analysed to draw a conclusion after both tests have been taken by the students. This data analysis is suitable because the research mainly focuses on obtaining the knowledge before and the knowledge after the novice users have engaged with the training material. As part of the data analysis the pre-test examined their before knowledge before the intervention, then the post-test was used to understand the after knowledge after the users have engaged with the training material. This method of data analysis was used in all aspects of the data collection tools (Barret, 2012:33).

2.3 Reliability and Validity

The pre-test allowed the researcher to analyse whether the students can use knowledge portals, and also, opt for an intervention followed by a post-test. The post-test as a tool was used to measure the reliability and validity of the data collected from the pre-test. The data analysis tools used for the research was Atlas.ti and content analysis which are qualitative data analysis and investigation software tools which assisted the researcher in determining the theme of the results along with the main trends from the data collected. The purpose of this pre-test was to identify what training material will be suitable to engage and support the learning of novice knowledge portal users; then the post-test was set to check the post-knowledge of the novice users after they have engaged with the training material to determine its credibility (Muller, 2015:25).

2.4 Ethical considerations

Before the research was conducted, the researcher obtained the informed consent before the study begins. The participants were required to sign the letter of informed consent, which informed the participants of the main purpose of the research (Muller, 2015:16). This research adhered to all ethical and legal considerations that were stipulated and voluntary nature of participants were impressive as the students showed much eagerness to engage in the pre-test. The researcher avoided violating informants' right to privacy by restricting to ask sensitive questions in the pre-test.

The post-test was also conducted in a professional manner, ensuring that the participant is in no way discriminated or offended (Muller, 2015:12). The data collected after the participants have indulged in the test was critically analysed based on the given answers without making any additions or subtractions to the content. This was done to ensure that the information provided is mainly depicted from the participants and therefore the researcher has no biased input in the content researched. Therefore, all the relevant sources used for the research were acknowledged (Muller, 2015:18).

2.5 Limitations to the study

The intervention took place as arranged and the students were engaged with the training material due to the outcomes of the pre-test. In the post-test however, the researcher encountered a problem whereby the time frames of the university had shifted due to the Fees Must Fall movement strikes and students were on holidays at the time frame. However, the researchers still ensured that the desired sample size of the students partake in the post-test to limit the unforeseen circumstances such as the turnout number of participants for the post-test being less than the number of the participant for the pre-test. Therefore, all the limitations of the study were counterbalanced despite some of the challenges (Prusak, 2015:28).

3 RESULTS

This research brought to the surface valuable insights on how novice users can use and interact with the knowledge portals. The research confirms the reasons why they are still not able to make use of the knowledge portal and much evidence is provided in this section. The chapter was organised in a way which best described the current capabilities of novice users of knowledge portals and discussed the credibility of the training material after the data collected from the post-test.

3.1 The current capabilities of novice users of knowledge portals

Based on the research it was evident that most students are not entirely aware of knowledge portals. The pre-test was given to 57 first year information portals students immediately after they engaged in their module assessment. Although the majority of students understand the basics of knowledge portals, however, they still require an intense training for them to understand the use of knowledge portals features and capabilities fully.

The majority of students have shown to understand how to access the portals; they know how to log on and enter their credentials. The majority of the students can access a whole of a variety of portals and to search for basic information. With the university making use of student portals such as Ulink and Blackboard, this approach has also proven to be ideal and benefited students to be more computer savvy and to be able to make use of the internet. The research also has shown that the students can use the portals however the majority are unable to understand the technicality of the knowledge portals.

The research also found that students are not aware of the suitable knowledge portal feature for collaboration. In which this will become knowledge repositories from which new insights will be regularly distilled and systematically and shared across other teams in the organisation. Within the common and collaborative workspace, at least, the following communication and collaboration functions could be performed: Knowledge portal collaboration can also be facilitated through In-house emails. The students knew how to use the knowledge portal for searching for content and accessing knowledge insights, however, the majority did not know how to use it as a collaboration tool. Around 40 students did not know about the knowledge portal search features, which range from employee search to enterprise search.

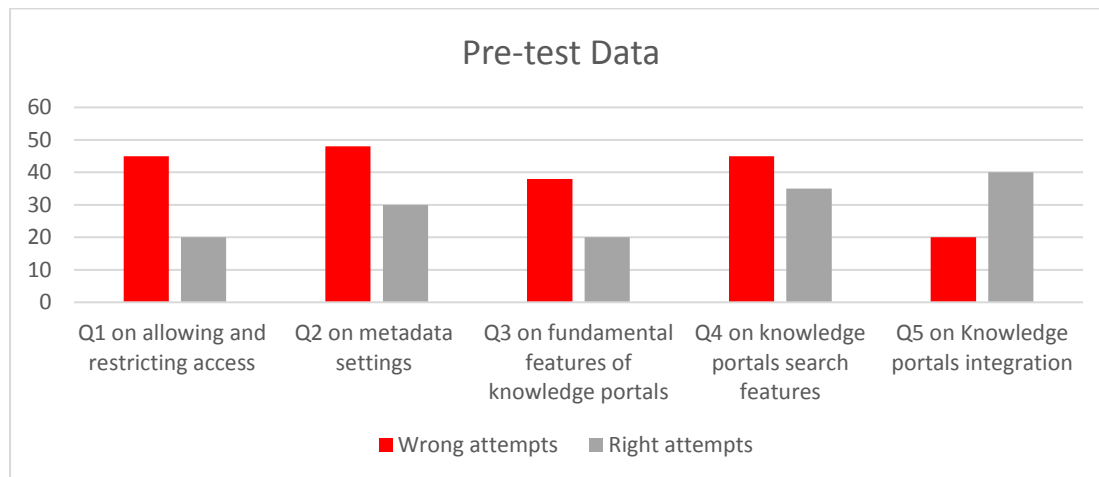
Over 42 students were also not able to depict the search features for knowledge portals since knowledge Portals are a web-based solution for closing this gap. They represent a concrete realisation of existing theoretical Knowledge Management approaches. However, the most significant challenge is not the deployment of the latest technology but the design of a platform that supports the users in their day-to-day business. A significant number of students did not fully understand on how to set up metadata navigation, they did not know how to make use of navigation settings and configure. The site users can use the navigation hierarchy to browse a list or library by folder or by metadata. When users select a managed metadata term in the navigation hierarchy, the view is automatically filtered to display only those items that are tagged with that term or any of its descendant terms. This allows users to filter only on a particular term and exclude the descendant child terms; users can select the item again.

Furthermore, 48 students did not fully understand how Metadata navigation works together with filters specified in any real list views, as well as with filters specified in columns for the list. Although students make use of the navigation tool on the knowledge portals, the research proved most of them are not entirely aware of them or rather do not know how to fulfill their purpose. The research also showed that 45 students did not know the technical part of giving access to certain users and not others within a knowledge portal.

NTFS (NT file system; sometimes New Technology File System) is the file system that the Windows NT operating system utilizes for storing and retrieving files on a hard disk. The NTFS file system available in Windows XP offers several security advantages not available in previous versions of Windows without NTFS. This could be achieved by using access controls and permit users. The research has also shown that 44 students did not know the fundamental features of a knowledge portal, which consisted of integration and presentation. The integration of knowledge portals to external web applications was asked to derive the technical abilities of

students about knowledge portals, these questions proved to be tricky, and 38 students did not know how to rationalise it, they did not understand how to encrypt and to add facts and data sync.

The following graph shows the data collection for the pre-test that was written this chart is based on the principal findings of the data collection. The graph shows all the attempts made by the students when they took the test. The y-axis represents the number of the students while the x-axis shows the main questions that we asked during the pre-test.



3.2 Training material suitable for novice knowledge portal users

The introduction of the training material will rapidly assist the students to familiarise themselves with the main features of portals. The training material was a guide to guide document that consists of the steps tailored to help the students or rather novice users to gain the capabilities to use the portals. As the research has identified all the elements to be included in the training material for it to be suitable to be utilised by the novice users. The most important aspects or findings are incorporated in the training material which aims to assist or broaden the knowledge of novice users.

The training material was developed based on what the novice users are aware already and based on what they are not aware or rather what they do not know at all about knowledge portals. The training material is divided into two sections; the first section addresses core elements as how to access knowledge portals through log-on and the type of credentials permitted search features of knowledge portals, and proper knowledge portal features for collaboration which includes the use of in-house emails.

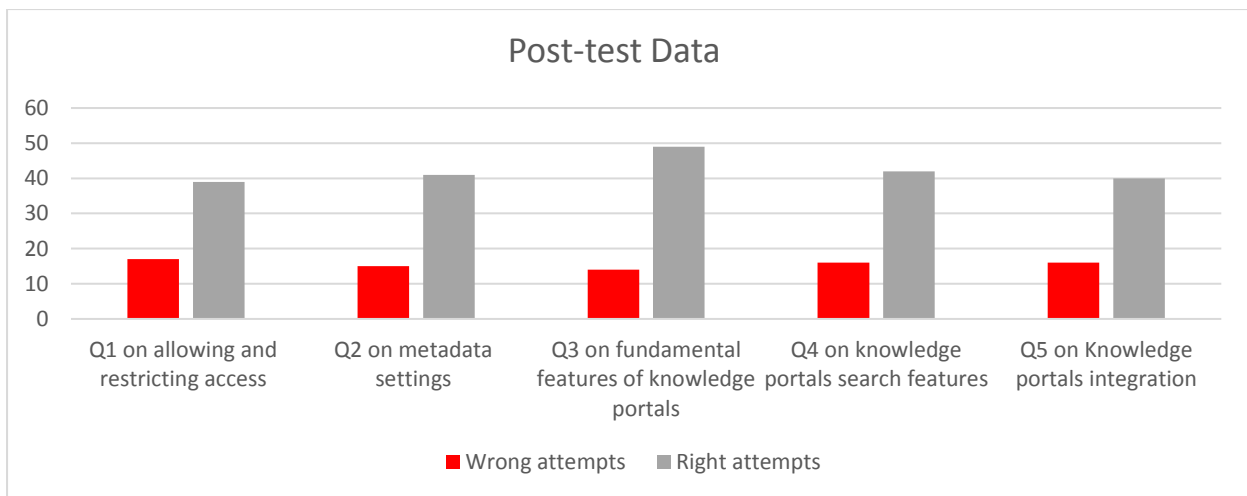
Section two of the training material consist of training the novice users on the technical aspects of knowledge portals such as how to give access to certain users and restrict others. The integration of knowledge portals and their external web applications, how to set up a metadata navigation through using navigation settings and configure, the fundamental features of knowledge portals such as employee search and skill search. This was designed to improve the capabilities of the novice users through making sure that they also familiar with the technicality behind the use of knowledge portals and also they can also use them to that extent.

3.3 The knowledge after the intervention

The pre-test has successfully examined their before pre-knowledge before the intervention; then the post-test was used to understand the post knowledge after the users have engaged with the training material. In this section, the post-test was developed and written comprising of the same questions as the pre-test. The research wanted to determine the credibility of the training material using the post-test. However, there were a less number of the students who partake in the post-test; as such students took the post-test, as opposed to 57 students who engaged with the pre-test and during the intervention. To determine the credibility of the research, the researcher opted to analyse the data collected to check the similarities or the patterns of the questions answered by the students.

Based on this analysis, it was evident that most students fully understand the use of knowledge portals, from the participants, an increase of knowledge was considered to be more as students have shown progress in understanding the knowledge portal concepts. The post-test was also an indicator that more content to the training material was required to boost the credibility of the training material particular on issues that needed the most practical side such as giving and restricting access to users. The pre-test has shown the current capabilities of the novice users; however even after they have engaged with the training material during the intervention, there was a slight increase in the percentage of those that understood how to use the portals.

The following graph interprets the findings from the post-test. It shows the growth of knowledge for the students who attempted the same questions in the pre-test.



4 DISCUSSIONS

The research managed to find that students can log on or rather to access knowledge portals however they are still not able to use the portal features, navigate and to use search capabilities. The fundamental features of knowledge portals are still a problem to understand for most students as they confuse them with the Internet instead of integration or presentation. The students are not yet able to fully utilise the features of knowledge portals and while some are still not able to use the search features of knowledge portals.

Many institutions of learning often use portals for collaboration; quite often the students are exposed to communication between their lecturer through an email or Blackboard. However, the majority of students, when tested, did not fully understand the use of in-house emails and

often referred to collaboration as chats. The students are not aware of the technicality of the knowledge portals; they rarely know how to give access and restrict access to certain users.

The pre-test also allowed the researcher to determine the current capabilities of the novice users, and it has also assisted with the formulation of the training material which was developed and introduced to the students to be trained followed by the post-test. In the pre-test, students performed poorly due to more students getting most of the questions wrong. Although the students understood what a knowledge portal is more of them did not understand how to give users access and restrict access to knowledge portals, some did not fully understand the search and fundamental features of knowledge portals. The metadata navigation setup was more complicated to more students as they could not differentiate between background metadata and configure.

The training material was delivered to the students based on the findings from the pre-test which indicated the need for developing a suitable training material. The training material was delivered through power slides, and the students were taught about the use of knowledge portals. The training advocated all the fundamental features and focused primarily on the question they did not understand on the pre-test. Since the sample size were students that engaged or have learned more about the information portals, it was a lot easier for the research to explain and receive feedback from the target group.

Despite the lack of participants from the students during the post-test, however, based on the data collected, there was more improvement from the students that wrote the post-test, most of the questions they fully understood them and had shown much effort. Students that took a post-test now understood the how to integrate knowledge portals with external web applications. The knowledge feature collaboration question showed a major increase in more students now understood the use of in-house emails.

In the post-test, students many students understood the search features of knowledge portals, search features and how to access it, as opposed to before the intervention. However, the majority of the students did not know how to give access to certain users and not others as this was more of a practical question. Regarding understanding the metadata navigation, there was a slight improvement on the number of students who answered the questions right.

Although the improvement made on the post-test, it is still recommended that the training material should also be improved, to train the novice users fully to be able to use a knowledge portal. The research encourages that the training material for novice users must furthermore consist of the information tailored to improve the capabilities of the novice users.

5 CONCLUSION

It was expected that most students do not have much knowledge on the use and the technicality behind the use of knowledge portals. Also, although some students were able to access and log in the knowledge portals, the lack of regular information and expertise training practices to assist the novice users is rarely addressed. However, it was found that organic knowledge exists on the students as the majority knows what a knowledge portal is and they relate to it or rather engage with it. The sharing of information and knowledge will be incorporated using the training material to facilitate knowledge sharing based on equipping the students to learn and know more about knowledge portal. The training material possesses all the information collected from the data collected focused mainly on the questions they did not fully understand. It was clear that the students that participated in the test have used portals to search, store and disseminate knowledge, which could have added more advantage for them to understand the use of knowledge portals fully.

However, most of the students that participated in the research have made use of Web-based or social networking tools to share information and knowledge effectively. Knowledge portals stem from a company's unique knowledge warehouse. Further research is necessary to establish training material which will be suitable to engage and support the learning of novice knowledge portal users. The current capabilities of the novice users were collected, analysed and integrated to form detailed training manuals that contained knowledge sharing approaches and technologies inputs that can best be implemented to novice users.

The training material developed incorporated all the information based on the questions in which they were tested during the pre-test. The training material had both the answers and the guidelines which are equipped to help novice users to have a deeper understanding of the use of knowledge portals. However, despite that, the post-test has indicated a slight improvement; the research has taken a stance to say that based on the data collected more needs to be done on the training material as an intervention to improve the knowledge of the novice users further. Thus it is recommended that the training material offers some bit of practicality to the students to depth their knowledge and also to equip them with real life guidelines about knowledge portals. The availability of the Internet will also have a profound impact on the way in which novice users can be able to understand knowledge portals. Therefore, the research suggests that the training material needs to be revised to be more suitable for novice knowledge portal users to depth their understanding.

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