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Finding Usability Problems in ERP Application Help and End-user Training Material

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ABSTRACT

Over the last decade, many organisations have implemented the standardised information system called Enterprise Resource Planning (ERP). ERP systems offer great promise for business process improvement, system integration, cost reduction and logistics efficiencies. While millions of dollars have been spent on the implementation of ERP systems, the potential users are still not able to use it. Usability problems are the big barrier preventing end-users from achieving required productivity. This research, based on 80 respondents, tried to find out the usability problems in ERP application Help and end-user training material. The results indicate that 56% of end-users did not consider the ERP application Help usable. Out of 80 respondents, 45 didn't have training material at all, and the 35 respondents who did have end-user training material considered it very usable.

KEYWORDS

Usability, Enterprise Resource Planning, ERP application Help, End-user training material.

1. INTRODUCTION

The global business environment is changing rapidly, and organisations from all over the world have to re-engineer their business processes in order to face the challenges of increased competition and rising customer expectations. The standardised information system that is enhancing organisational performance through the integration of various business modules is called Enterprise Resource Planning (ERP). A successful ERP project implementation is critical in order to increase performance and ensure survival of the organisation. When an ERP system has been successfully implemented, it can provide significant benefits: automation of business processes, reduction of inventory, reduction of working capital, reduction of operating costs, reduction of transportation and logistics costs, generation of more accurate demand forecasts, improved customer service, better decision making and making tacit knowledge explicit (Shehab, 2004; Fethi & Ferah, 2004). The benefits of implementing ERP systems are huge, and that is why many organisations are willing to implement them and the forecast for the ERP market by 2020 is Dollar 41.69bn (Forrester, 2014).

Despite the potential benefits that an organisation could gain from a successful ERP implementation, many are still facing difficult problems and are unable to achieve significant organisational improvement. Some organisations have downsized their initiatives, and others have accepted minimum payoffs or given up the ERP implementation (Fethi & Ferah, 2004). ERP implementation problems potentially lead to project failure. Different types of failure are: poorly defined business goals (Deloitte Consulting, 2000), expectation failure (when the ERP application does not match user expectations), interaction failure (when end-users' attitudes toward the ERP application are negative), correspondence failure (when there is no match between ERP application and the planned objectives) (Aloini, Dulmin & Mininno, 2012), inadequate training (Shaul & Tauber, 2013), changes in project scope (Holland, Light, & Gibson, 1998), lack of commitment from top management, ignoring accuracy of data, a delay in ERP implementation, budget over run, lack of user

involvement, underestimation of end user education and training (Zhang, 2002). Many researchers have mentioned that the usability of the system is one of the key factors for failure in ERP applications (Fethi & Ferah, 2004). A product with bad usability will make it harder for the end-users to achieve their goals. As a result, their productivity with the ERP application will suffer. End user training is an important factor to ERP system success. The effectiveness of training depends on the usability of documentation (Scott, 2008).

In recent years, many organisations have implemented ERP systems. In most cases, the potential or intended end-users are not able to use them (Garaca, 2011). Usability is a critical success factor of ERP system. Poor usability makes it difficult to interact with the ERP application, which further impacts the time to learn how to use the product (Brenda, 2013). We can define a usable ERP system as “an attribute of entire software package that make up a product. It includes typical construct like: easy to learn; effective to use; efficient in performing task; end-users satisfactory; memorability; training and interface evaluation by using guidelines. It also includes external factors that influence or affect the end-user to achieve their usability goals”. In a previous study, Sadiq and Pirhonen (2012; 2013), mentioned two external factors that affect the end-user usability; those factors are computer literacy training and lack of manager usability knowledge. Giving computer literacy training to end-users has two effects on users. First, it has a positive effect on the attitude of end-users; second, they are convinced at a behaviour level and are willing to use the ERP application even it is complex. Lack of manager knowledge is also an external factor that affects the end-user usability. They think that it is the end-user who will use an ERP application and the end-users should learn the ERP application by themselves. In this article, we tried to highlight the usability problems in ERP application *Help* and end-user training material. The next section discusses the methodology that was used in a survey of 80 respondents from two organisations. This is followed by the results, and conclusion.

2. RESEARCH METHODOLOGY

In order to approach this research, we have used a survey methodology. The main instrument for collecting the primary data was a questionnaire composed of four research questions:

- 1: How usable is the ERP application *Help*?
- 2: How usable is the end-user training material (or functional document)?
- 3: Is training material available to end-users?
- 4: What kind of usability problems do the end-users face without the availability of training material?

Two case organisations from Pakistan were selected. The concept of usability was introduced to end-users before getting the questionnaire feedback.

2.1 Case Organisation Detail

Organisation A is from the oil & gas sector, while organisation B is from the manufacturing industry. Both organisations have implemented Oracle ERP modules within the last seven years. The organisational information is in Table 1.

Table 1: Case Organisation

<i>Organisations</i>	<i>Organisation A</i>	<i>Organisation B</i>
<i>Industry type</i>	Oil & Gas	Manufacturing
<i>Category of Implementation</i>	Middle of the Road	Middle of the Road
<i>ERP Application</i>	Oracle	Oracle

2.2 Basic Characteristics of Respondents

The 80 respondents in this research were full-time employees working in these two organisations. The data were collected between June and September, 2013. Of 80 respondents, 20 were female and 60 were male. The main instrument for collecting the data from respondents was the questionnaire. The respondents detail is in Table 2.

Table 2: Respondents Demographic Information

ERP Vendor	Respondents	Department	Experience	Education
ORACLE	20	Financial	0 – 6	MBA, B.Com
	20	Order Management	0 – 6	B.A, B.Com, MBA
	15	Purchasing	0 – 6	B.A, B.Com, MBA
	25	Inventory	0 – 6	F. A, B.A, B.Com, MBA
Total	80			

2.3 Questionnaire Items

The questionnaire consisted of four parts. The first part involved demographic questions designed to collect the information about the respondent, their organisation, age, gender, type of ERP system use and experience with the ERP system. The second part involved two questions about getting the respondents' feedback on the ERP application *Help* and end-user training material. This part used a four-point, Likert-type scale 1=not at all to 4=very usable. The third part involved one question about the respondents' feedback on the availability of end-user training material. This part used a four-point, Likert-type scale 1=not at all to 4=all of it. The fourth part involved one open-ended question about finding usability problems when the end-user training material was not available.

3. RESULTS

Different types of data analysis techniques can be utilised on qualitative and quantitative data. For quantitative data analysis, descriptive statistics, correlation analysis, development of predictive models and hypothesis testing are commonly used. For our research purposes, we have used descriptive statistics which is a technique easily understood by a general audience.

3.1 How Usable is the ERP Application *Help*?

In order to investigate this question, we have divided the 80 respondents into two categories. The first category has an experience range from zero to two years, while the other category has an experience range from two to six years. Descriptive statistics, mean, median and frequency values are used for analysing the results. The overall results are in Table 3.

Table 3: Feedback from Respondents on ERP Application *Help*

Question	Frequency Count				Mean	Median
	1	2	3	4		
Is the ' <i>Help</i> ' provided by this Oracle ERP Application is usable?	45	30	3	2	1.5	1
Respondents experience From 0 to 2 Years	35	10	5	0	1.4	1
Respondents experience From 2 to 6 Years	10	10	8	2	2.1	2

The overall mean value is 1.5, while the median is 1. These results tell us that 56% of the respondents did not consider the Oracle ERP *Help* usable. Only 35 respondents considered it usable on some level; three considered it mostly usable and only two considered it fully usable. Further analysis revealed that the respondents who have less experience (0-2 years) considered *Help* less usable compared to those having more experience (2-6 years). The mean value for less experienced respondents is 1.4, while for experienced respondents it is 2.1. Only two experienced respondents (in the 2-6 year range) considered the ERP application *Help* fully usable.

Now the question is why is the standard Help provided by the ERP application not usable? In order to find the answers to this question, we interviewed the respondents. The end-users mentioned two usability problems, as follow:

- 1) The task procedural steps are mentioned only in the form of English text. There is no screenshot attached to each step. The respondents said that it would be usable if the task procedural steps were mentioned in English text along with a screenshot.
- 2) The ERP application Help provided by this vendor is too generic.

To understand the above mentioned usability problems, let's take a real purchase order example in the ERP. Suppose the end-user is in the purchase order transaction window and he/she wants to get help for completing the lines. This could be done in two ways: directly by clicking the question mark (?) on the specific window, or getting it from the Help Menu Bar. The screenshot is in Figure 1:

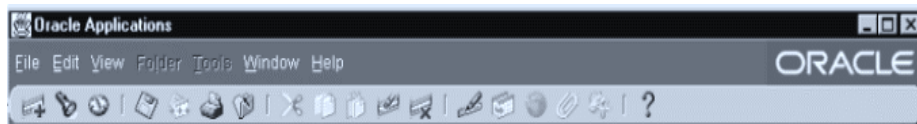


Figure 1: Oracle Application Help

When the end-user initiates either of the two ways, the Help window will open in another area called "Purchase Order Window Alternative Region" (as seen in Figure 2).

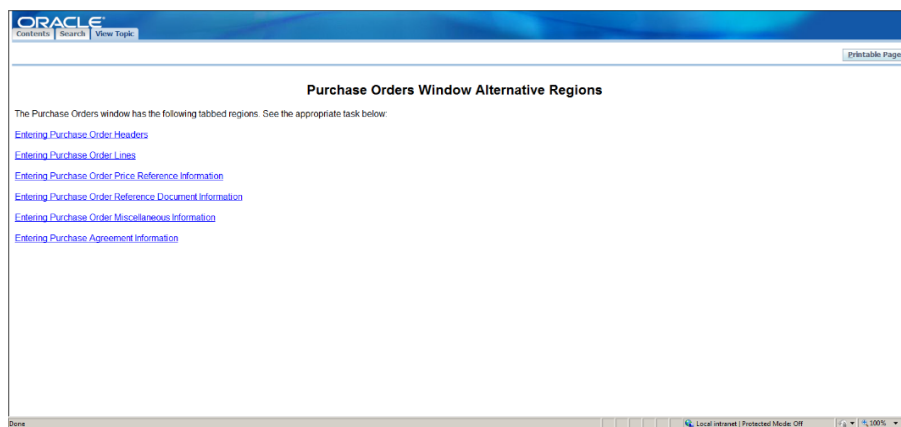


Figure 2: Window Alternative Regions

This window shows all the help options related to the purchase order window available in clickable form. The options are: 'Entering purchase order headers, Entering purchase order lines, Entering purchase order price reference information, Entering purchase order reference document information, Entering purchase order miscellaneous information and Entering purchase agreement information.' The end-user clicks on the purchase order lines and the new screen will open up. As we can see from Figure 4, all the task procedural steps for entering purchase order lines are written in only English text. It is also too generic. For instance, Step 3 reads: "Enter the line type for the item." The line types depend on the specific operating unit of the organisation. It could be finished good, raw material or scrap items.

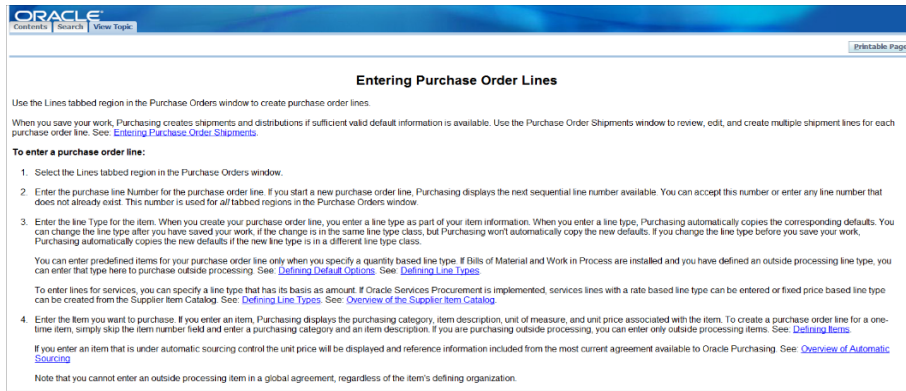


Figure 3: Entering Purchase Order Lines

3.2 How Usable is the End-user Training Material (or Functional Document)?

The feedback from the 35 respondents is shown in Table 4. The overall mean value is 3.6, and the median is 4. Almost all of the respondents considered the end-user training material very usable. Not a single respondent considered it not usable. Further analysis revealed that there is only .1 difference between the mean value of respondents having less experience (0-2 years) and more experience (2-6 years).

Table 4: Feedback from Respondents on End-user Training Material

Question	Frequency Count				Mean	Median
	1	2	3	4		
If you have the 'End-user' training Material (some or all) available, is it usable?	0	2	8	25	3.6	4
Respondents experience From 0 to 2 Years	0	0	2	5	3.7	4
Respondents experience From 2 to 6 Years	0	2	6	20	3.6	4

We contacted the IT department of organisation B and investigated the reason behind the views of the respondents considering the usability of the end-user training material. We went through some of the training material related to the purchasing module and found that each procedural task step was shown in English text along with specific screenshots. The end-user training material was designed according to a specific organisation unit. For instance, they had the specific 'Item code' and 'Unit of measure.' Due to confidentiality of the organisations, it is not possible to show their end-user training material here.

3.3 Is Training Material Available to End-users?

Out of 80 respondents, 45 respondents did not have the training material at all or it was not possible for them to get it from their own or IT department. Only 35 respondents had the end-user training material available: 16 respondents had it at some level, 14 respondents had it mostly and 5 respondents had it all. There is also a big difference between the availability of training material for the less experienced respondents and more experienced category. Out of 35, only 7 respondents from the less experienced (0-2 years) category had the training material, while 28 respondents from the experienced (2-6 years) category had the training material available. The feedback from respondents is in Table 5.

Table 5: Feedback from Respondents on Availability of Training Material

Question	Frequency Count			
	1	2	3	4
Is end-user training material available or it is available upon request from your own IT Department?	45	16	14	5
Respondents experience from 0 to 2 years	0	5	2	0
Respondents experience from 2 to 6 years	0	2	6	20

We further tried to investigate why some respondents have the end-user training material, while others did not have it. We asked one simple question: How did you get the end-user training material? Some respondents mentioned that they got it from their own department. Others mentioned that they got it directly from the IT department because they had a good relationship with that department.

3.4 What Kind of Usability Problems do End-users Face without Training Material?

This is the last research question investigated in this article. It consists of one open-ended question. The purpose of this question was to find the usability problems when the end-user training materials were not available. The usability problems mentioned from the respondents are as follow:

- 1) Too much dependency on senior colleagues.
- 2) Difficulty in learning existing or new tasks.
- 3) Making mistakes – it would be easier to perform the task more effectively if the material was available.
- 4) Problems in memorising tasks. Some of the tasks are not performed on a daily. In these situations, the availability of such material would be very usable.

4. CONCLUSION

In this article, we highlighted the usability problems in the ERP application *Help* and end-user training material. The effectiveness of training depends on the usability of documentation. In complex information system like ERP, the *Help* and end-user training material has to play an important role. Because, the interlinked business process capabilities make it more complex as compared to a normal software like ‘word pad.’ If the standard *Help* provided by the ERP application is usable, then the end-users can learn their job tasks independently and effectively. If there are usability problems, like task procedural steps in the form of text only or being too generic, then they would not be able to use it. Likewise, if the end-user training material is not available to every end-user in the organisation, then they have to depend on senior colleagues, confront too many problems with existing or new tasks, and face the problem of completing infrequent tasks. Usability is share interest among the stakeholders like ERP vendor, consultant and the implementation organisation. The stakeholders should make sure that every end-user has the training material available. And the documentation is according to the need of end-user working in different unit of the organisation.

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