

USER FACILITATION MECHANISM FOR DIFFERENT TYPES OF USERS

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Abstract

Computer users today are almost as varied as people in general. Although there have been a number of attempts. In that, application software helps the end users to perform multiple tasks. It is specifically being designed to facilitate the mechanism of such software to reach the goal of different types of users. Because of the continually increasing use of computers in our daily communications and work, the knowledge of computer systems and the ability to work with word processing, data management, spread sheet and data analysis programs have become essential requirements for many positions. The degree of knowledge and proficiency required varies from one position to another based on the tasks and duties involved. This paper proposes “Who exactly are the users?” and the constraints under which jobs must be performed with the different kinds of applications. A detailed study has been done on the facilitation mechanism of users of the divergent applications and charts have been drawn to demonstrate the relationship between the collected data points.

Keywords: *Computer User, Computer System, Application Software, Data Management*

1. Introduction

In this section some of the characteristics of technology transfer are explored and technology policy in order to address the basic challenge facing the platform, that of making it useful to actors in the creation, acquisition, diffusion and transfer of technology, understood as productive knowledge[1,2]. Establishing and running a platform is a manageable task, but if the platform is not useful, it will soon be redundant and moribund [3].

1.1 USER CLASSIFICATION

There are 3 main types of user

- Novice
- Knowledgeable / intermittent user
- Expert / frequent user

Users can however, be classified in any other way that is appropriate to the system being built.[4]

- Some users may have keyboard skills, others not.
- Some users may have knowledge of other similar systems, others not [5].

The advantages of classification mean that generalizations can be made about users and their needs.

- This doesn't necessarily mean that the best system has been designed for every individual [6].
- It means that the system has been designed to fit the generalizations for each user group [7].

1.1.1 The Novice

- For the novice user of a system, progress is slow because of the limitations of working memory [8].
- Chunking is almost entirely absent.
- Systems used by novices require more feedback and more opportunities for closure [9].

1.1.2 Knowledgeable/Intermittent Users

These users need consistent structures, good help facilities and good documentation [10].

1.1.3 Expert Users

1. These users have fast response time and will require brief feedback [11].
2. Experts organize their knowledge according to a higher conceptual structure.
3. They can recall more than novices because their knowledge is chunked [12].
4. Expert users will look for keyboard shortcuts, abbreviated sequences.
5. Experts can find constant confirmation screens irritating - Use these only when important [13].

The following graph represents the facilitation process of different types of users.

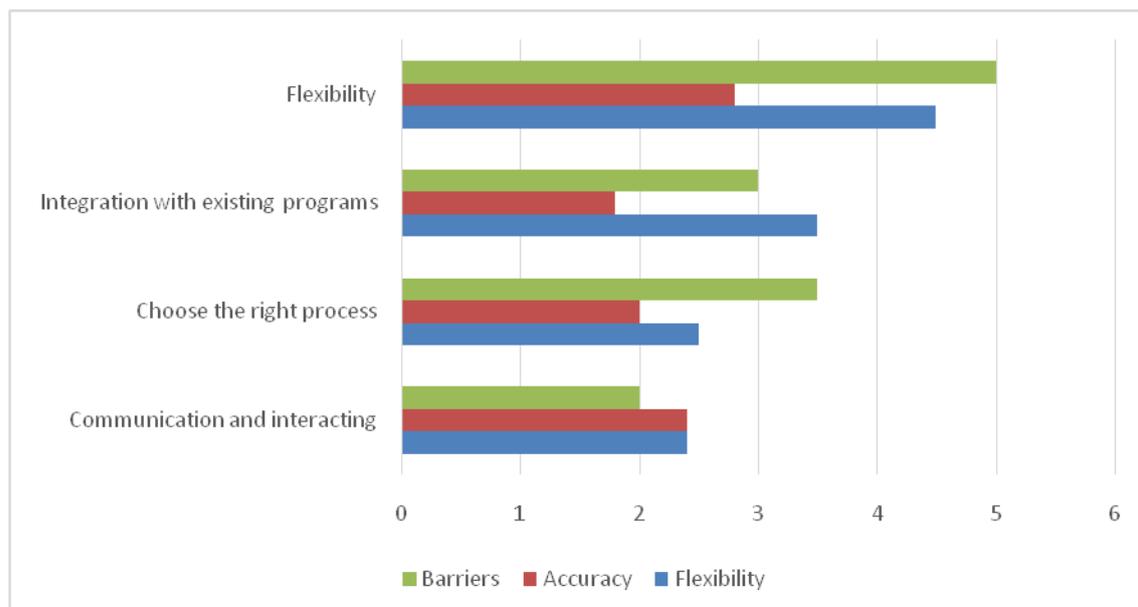


Figure 1. Facilitation Process of Different Types of Users

It has been developed descriptions for the different degrees of familiarity with and of ability to use computer systems and programs [14]. Three levels of proficiency have been defined: beginner, intermediate, and advanced. These levels reflect the standard steps in the acquisition and development of computer skills.

2. Levels of competency in using Microsoft Word

The following table explains the various levels and skills using Microsoft word in detail.

Table 1. Various Levels and Skills using Microsoft Word

LEVELS	SKILLS
<p>Basic</p> <p>This level of skills is sufficient to perform daily word processing tasks, such as, producing routine letters, memorandums, and informal reports. A person with this level of skills is able to use basic formatting, editing, printing functions, and understands the document page setup.</p>	<p>The person has the skills to</p> <ul style="list-style-type: none"> ♣ Create a new document, enter text, and save it. ♣ Open and edit existing documents. ♣ Navigate in a document and perform a search. ♣ Select and move text. ♣ Format characters and paragraphs; work with tabs, indents, margins, lists, breaks, spacing. ♣ Use AutoCorrect and Help tools. ♣ Create and edit tables. ♣ Control page and document appearance. ♣ Print documents, envelopes, and labels.
<p>Intermediate</p> <p>This level of skills is necessary in order to use and create a variety of templates, complex tables, merges; manage table data, sort and filter merges, and also perform basic work with existing Macros. A person with this level of skills is able to customize toolbars, import and insert graphs, embed Excel data, and elaborate reports.</p>	<p>The person has the skills to</p> <ul style="list-style-type: none"> ♣ Work with sections, create templates, use styles, and customize them. ♣ Create and format complex tables, and manage table data. ♣ Create Mail Merges, sort and filter them. ♣ Customize Toolbars. ♣ Insert graphic elements.

	<ul style="list-style-type: none"> ♣ Run and record Macros. ♣ Create a Web Page based on a template and add hyperlinks.
<p>Advanced</p> <p>This level of skills is required in order to produce every large, complex formal documents that require a table of contents, footnotes, endnotes, bookmarks, and other special elements. A person with this level of skills is able to use and create a wide range of graphic effects and has full mastery of Macro commands.</p>	<p>The person has the skills to</p> <ul style="list-style-type: none"> ♣ Work with advanced styles and AutoFormat features, linking styles. ♣ Use graphic effects such as dropped capital letters and clip art, insert WordArt, and draw in a document. ♣ Work with very large documents that require a table of contents, footnotes, endnotes, and crossreferences. ♣ Manage and track document changes, using highlights and comments. ♣ Insert multimedia elements in a Web Page. ♣ Manage Macro commands, create dialogue boxes, and understand the notions of Visual Basic Application programming.

The following figure 2 represents data, clustered and stacked graph show the skill proficiency of different users in using Microsoft Word application.

Users Level	Navigate in a document and perform a search. (graph1)	Use AutoCorrect and Help tools. (graph2)	Work with sections, create templates, use styles, and customize them. (graph 3)	Manage and track document changes (graph 4)
Beginners	50%	100%	80%	30%
Intermediate Users	80%	80%	150%	50%
Expert Users	100%	30%	170%	150%

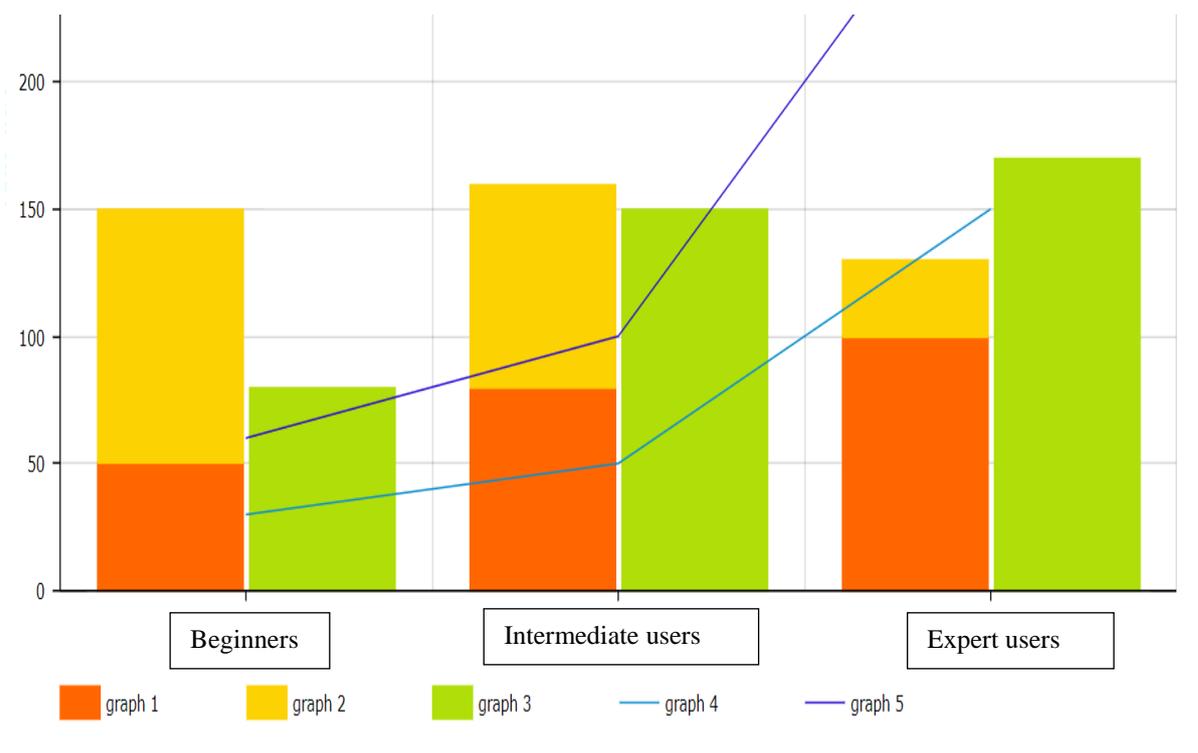


Figure 2. The Skill proficiency of different users in using Microsoft Word application.

3. Levels of competency in using Microsoft Access

The following table 2 explains the various levels and skills using Microsoft Access in detail.

Table 2. Various Levels and Skills using Microsoft Access

LEVELS	SKILLS
<p>Basic</p> <p>This level of skills is required to design, create, and modify databases, tables, queries, forms, and reports. A person with this level of skills understands the different database concepts and structures and is familiar with data validation and indexing techniques.</p>	<p>The person has the skills to</p> <ul style="list-style-type: none"> ♣ Plan, conceive, create, save, manage, and maintain a database. ♣ Modify a database structure. ♣ Generate new records and modify them. ♣ Create tables with Table Wizard and in Design View and work with them. ♣ Find, edit, filter, and sort records. ♣ Create and use Select Queries to view specific records and to perform calculations. ♣ Create, use, and

	<p>customize forms, and reports.</p> <ul style="list-style-type: none"> ♣ Work with Data Access Pages.
<p>Intermediate</p> <p>This level of skills is required to use complex query techniques, create efficient forms and reports, and create Macros to automate these forms.</p>	<p>The person has the skills to</p> <ul style="list-style-type: none"> ♣ Create parameter and action queries. ♣ Join tables, work with join properties, and create cross-tab queries. ♣ Organize field placement and use functions to control data entry. ♣ Use advanced form techniques. ♣ Create basic Macros to automate forms and data entry. ♣ Use Macros to provide user interaction and automate tasks. ♣ Customize the appearance and functionality of reports. ♣ Use hyperlinks and perform data integration.
<p>Advanced</p> <p>This level of skills is required to develop an application and tie the objects together into a cohesive system by using Macros and Visual Basic for Applications code.</p>	<p>The person has the skills to</p> <ul style="list-style-type: none"> ♣ Plan and examine an application, and develop a distributed application design. ♣ Use one form for two purposes: to add or to edit records. ♣ Automate a dialog-box form with a Macro group. ♣ Create a Switchboard or a Splash Screen form. ♣ Use Visual Basic to create a public function or event procedures, or add general procedures in a form module. ♣ Secure a database by using user-level security, document it and distribute the secured application.

The following figure 3 represents data and clustered graph show the skill proficiency of different users in using Microsoft Access application.

Users Level	Create tables with Table Wizard and in Design View and work with them. (graph1)	Use advanced form techniques. (graph 2)	Use hyperlinks and perform data integration (graph 2)	Secure a database by using user-level security, document it and distribute the secured application. (graph 3)
Beginners	30%	20%	10%	5%
Intermediate Users	50%	60%	30%	30%
Expert Users	80%	90%	60%	90%

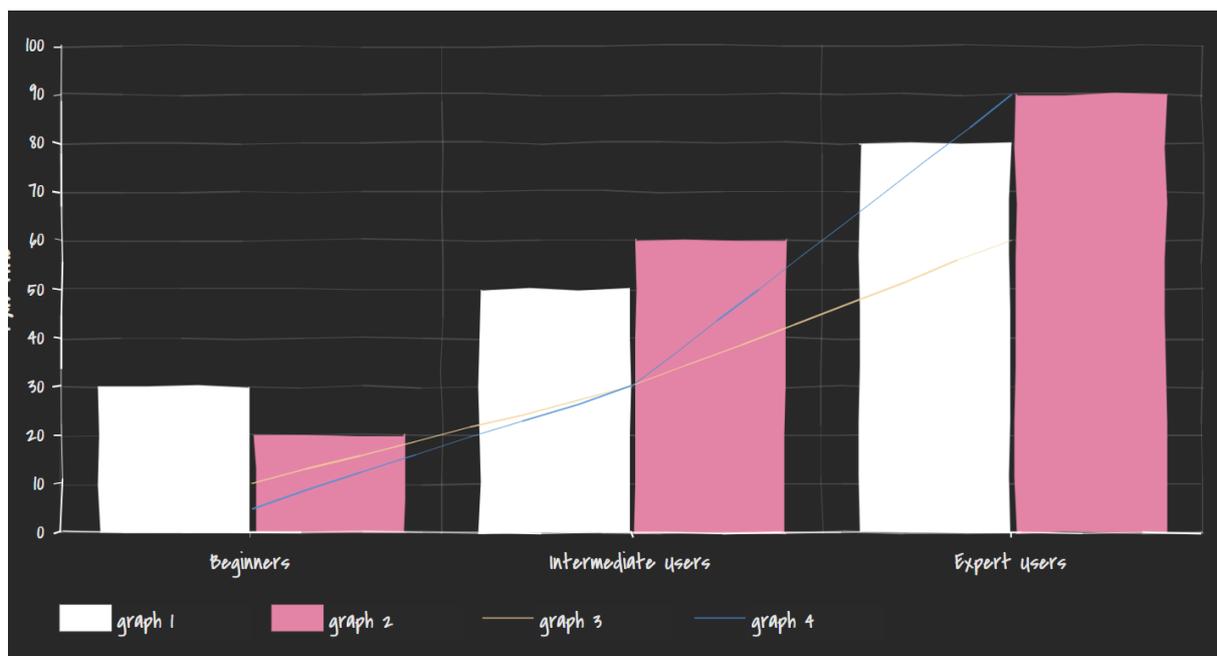


Figure 3. The Skill proficiency of different users in using Microsoft Access application

4. Levels of competency in using Microsoft PowerPoint

The following table 3 explains the various levels and skills using Microsoft Power Point in detail.

Table 2. Various Levels and Skills using Microsoft Power Point

LEVELS	SKILLS
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<p>Basic</p> <p>These levels of skills are required to create a simple presentation in PowerPoint, run it, and print it.</p>	<p>The person has the skills to</p> <ul style="list-style-type: none"> ♣ Create title and bullet slides. ♣ Create Slides in Outline view. ♣ Modify slide text and check spelling. ♣ Select a template ♣ Insert a table. ♣ Work with text, drawn objects, and drawing tools. ♣ Use ClipArt and WordArt. ♣ Create an Organization Chart and use options. ♣ Edit a Column Chart. ♣ Change text and bullets in the Slide Master and remove objects. ♣ Use Slide Show options; add transitions and animation. ♣ Run a manual and an animated Slide Show. ♣ Work with Notes. ♣ Print a presentation.
<p>Intermediate & Advanced</p> <p>This level of skills is required to customize templates and the PowerPoint environment, and to make a presentation interactive by using hyperlinks and action buttons.</p>	<p>The person has the skills to</p> <ul style="list-style-type: none"> ♣ Create a template and work with a Design template. ♣ Work with graphics, animation and multimedia, inserting movies and sound. ♣ Work with the Office Suite to create slides from an outline and send slides to Microsoft Word. ♣ Customize PowerPoint toolbars and automate the slide production.

	<ul style="list-style-type: none"> ♣ Use AutoCorrect and the Style Checker. ♣ Build interactive presentations, using hyperlinks, creating interactive objects, working with Slide Show options, and using the Meeting Minder. ♣ Explore online meetings and broadcast presentations.
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The following figure4 represents data and clustered graph represent relationship between different users in using Microsoft Presentation.

Users Level	Select a template (graph 1)	Change text and bullets in the Slide Master and remove objects. (graph 2)	Create a template and work with a Design template. (graph 3)	Build interactive presentations, Explore online meetings and broadcast presentations. (graph 4)
Beginners	10%	15%	35%	40%
Intermediate Users	15%	23%	40%	60%
Expert Users	20%	30%	55%	70%

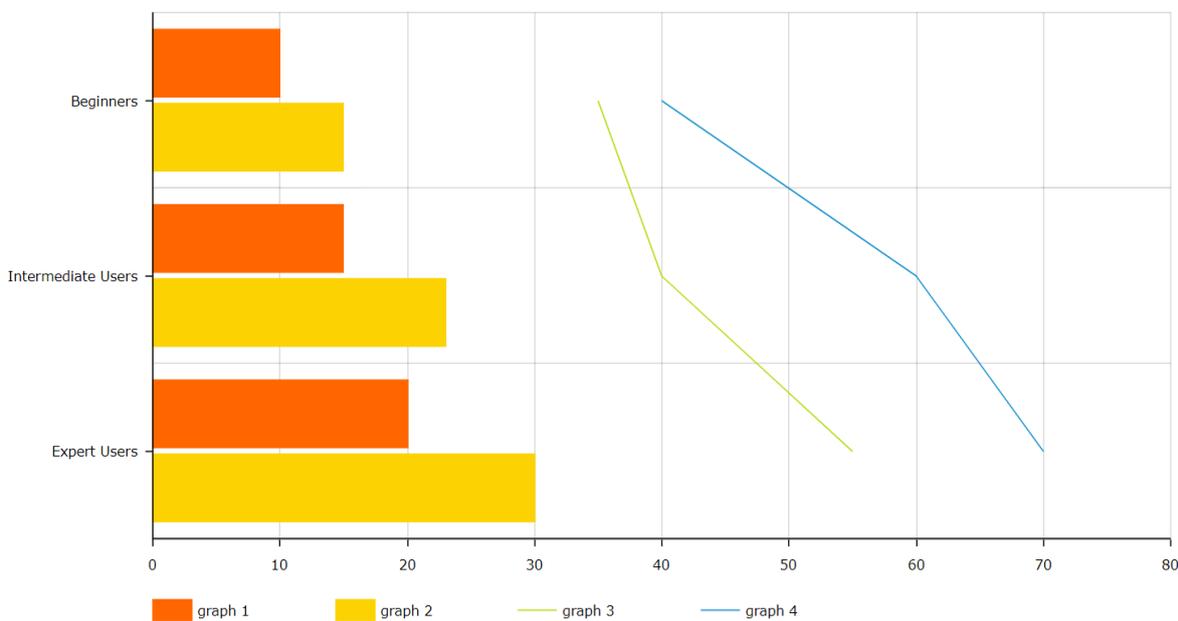


Figure 4. The Skill proficiency of different users in using Microsoft Power Point application

5. Conclusion

Now it is understood that who are the real users and the constraints under which jobs must be performed with the different kinds of applications. A perfect study has been done on the facilitation mechanism of users of the different applications and charts have been pinched to show the relationship between the collected data points.

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