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A Comparative Study of Users' Experiences with Microsoft Windows Vista and Windows XP: A Case Study of University Of Ibadan.

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Abstract

Through the past two decades, Human Computer Interactions emerged as a focal area of computer science research and development. Human Computer Interaction is about designing computer systems that support people so that they can carry out their activities productively and safely. And this has a role in playing in the design and development of all kinds of system. Although advances in technology tend to drive advances in field, technology needs to be usable as well as functional. According to Terry Winogard (1990)'' Except for special things like computer games, people don't use computer because they want to use computer, they use computer because they want to write papers, they want to communicate with people, and they want to design bridges and so on. Whatever they are doing, the computer is an enabling device that can help them to do it''. Designing interactive computer systems to be effective, efficient, easy and enjoyable to use is important, so that people and society may realize the benefit of computation-based devices.

Keywords: Human Computer Interactions, Operating Systems, Microsoft, Windows Vista, Windows XP, Computer.

Introduction

Human Computer Interaction [HCI] is the study of how people interact with computers and to what extent computer is or are not developed for successful interaction with human beings (Monk 1985). However, HCI interaction in a system can only take place if there is a physical/conceptual link (or interface) between participants. HCI employs theories of human cognition in studying how people design, implement and use computers and how computers affect individuals, organizations and society (Martins 1990).

A significant number of major corporations and academic institutions now study HCI. Historically, through some exceptions, computer system developers have not paid much attention to computer ease-of-use. Many computer users today would argue that computer makers are not paying attention to making their products “user-friendly”. However, computer system developers might argue that computers are extremely complex products to design and make and that the demand for the services that computers can provide has always out driven the demand for ease-of-use of learning and keeping knowledge and skills [different “cognitive styles”]. Another consideration in studying or designing HCI is that user interface technology changes rapidly, offering new interaction possibilities to which previous research findings may not apply. (Carroll 1990).

Finally, user preferences change as they gradually master new interfaces. Through the past two decades, HCI emerged as a focal area of both computer science research and development and of applied social behavioural science. Some of the reasons for its success are straightforward technical: HCI evoked many difficult problems and elegant solutions in the recent history of computer, for example, in work on direct manipulation interface, management system, task oriented help and instruction. (Weiser, 1991)

Windows Vista is a line of operating systems developed by Microsoft for use on personal computers, including home and business desktops, laptops, Tablet PCs, and media centre PCs. Prior to its announcement on July 22, 2005, Windows Vista was known by its codename Longhorn. Development was completed on November 8, 2006; over the following three months it was released in stages to computer hardware and software manufacturers, business customers, and retail channels.

Windows Vista contains many changes and new features, including an updated graphical user interface and visual style dubbed Windows Aero, improved searching features, new multimedia creation tools such as Windows DVD Maker, and redesigned networking, audio, print, and display sub-systems. Vista also aims to increase the level of communication between machines on a home network, using peer-to-peer technology to simplify sharing files and digital media between computers and devices. Windows Vista includes version 3.0 of the .NET Framework, which aims to make it significantly easier for software developers to write applications than with the traditional Windows API.

Microsoft's primary stated objective with Windows Vista, however, has been to improve the state of security in the Windows operating system. One common criticism of Windows XP and its predecessors has been their commonly exploited security vulnerabilities and overall susceptibility to malware, viruses and buffer overflows. In light of this, Microsoft chairman Bill Gates announced in early 2002 a company-wide "Trustworthy Computing initiative"

which aims to incorporate security work into every aspect of software development at the company. Microsoft stated that it prioritized improving the security of Windows XP and Windows Server 2003 above finishing Windows Vista, thus delaying its completion. (Jeffrey, 2007)

Windows XP is a line of operating systems produced by Microsoft for use on personal computers, including home and business desktops, notebook computers, and media centers. The name "XP" stands for eXPerience. Windows XP is known for its improved stability and efficiency over the 9x versions of Microsoft Windows. It presents a significantly redesigned graphical user interface, a change Microsoft promoted as more user-friendly than previous versions of Windows. New software management capabilities were introduced to avoid the "DLL hell" that plagued older consumer-oriented 9x versions of Windows. It is also the first version of Windows to use product activation to combat software piracy, a restriction that did not sit well with some users and privacy advocates. Windows XP has also been criticized by some users for security vulnerabilities, tight integration of applications such as Internet Explorer 6 and Windows Media Player, and for aspects of its default user interface. Later versions with Service Pack 2, and Internet Explorer 7 addressed some of these concerns. (Microsoft, 2001)

Statement of The Problem

Criticism of Windows Vista has targeted its high system requirements, its more restrictive licensing terms, the inclusion of a number of new digital rights management technologies aimed at restricting the copying of protected digital media, lack of compatibility with some pre-Vista hardware and software, and the number of authorization prompts for User Account Control, (UAC). Although UAC is considered an important part of Vista's security infrastructure, as it blocks software from silently gaining administrator privileges without the user's knowledge, it has been widely criticized for generating too many prompts.

Vista enforces new forms of "Digital Rights Management (DRM)". DRM is more accurately called Digital Restrictions Management, because it is a technology that Big Media and computer companies use in order to have control over how our computers are used. According to Bruce Schneier (2008), a technology security expert explains most concisely that Windows Vista includes an array of "features" that are not needed. These features will make the computer less reliable and less secure. They'll make the system less stable and run slower which in turn could cause technical support problems. An upgrade of some of peripheral hardware and existing software might be required which won't do anything useful. In fact, they're working against the user. Digital rights management (DRM) features are built into Vista at the behest of the entertainment industry and users don't get the benefit of refusing them.

In this climate, it is time to investigate whether this view merely presents an image problem, or if there is a deeper problem in the technological barriers built in enforces DRM such that when you try to do something then your computer tells you that you can't. To make this effective, your computer has to be constantly monitoring what you are doing. This constant monitoring uses computing power and memory, and is a large part of the reason why Microsoft is telling you that you have to buy new and more powerful hardware in order to run Vista. They want you to buy new hardware not because you need it, but because your computer needs it in order to be more effective at restricting what you do. Microsoft and other computer companies sometimes refer to these restrictions as "Trusted Computing."

Windows Vista, like previous versions of Windows, is proprietary software: leased to you under a license that severely restricts how you can use it, and without source code, so nobody but Microsoft can change it or even verify what it really does.

The researcher was prompted to do this study due to the fact that Microsoft's new Windows Vista operating system is a giant step backward for our freedom, having bad drivers. Even today there are companies that do not offer Windows Vista compatible drivers for their hardware. Drivers are not the only problem. Lots of applications do not work either on the new Microsoft operating system. That's because many software developers created applications that function only if the user has full administrative privileges. With the introduction of UAC (User Access Control) and other system changes, lots of old applications have problems. The most prominent example of an application that was incompatible with Windows Vista is **iTunes**. Whenever the Windows Vista "Safely Remove Hardware" feature was used, it corrupted the user's iPods, requiring a full restore. Also, iTunes text and graphics had display issues with Windows Vista. However, upgrading to iTunes v7.2 or higher. Whatever the case, could this be a mistake from Microsoft, or the introduction of UAC? These questions require prompt answers as we continue to experience influx of new Operation Systems. Therefore, the main problem of this research is to find out the characteristics of Microsoft windows vista and windows XP from the users perspective and how find experience with the use of the various operating system help them to do their works at easy, this will then be done by evaluating the users experiences.

Objectives of issues of Human Computer Interaction amidst Windows XP users and Windows Vista users

The Windows operating system, the operating system of Microsoft Corporation is the most widely used operating system and serves as an extension and replacement for Microsoft Disk Operating System official. It provides a graphical user interface which allows commands to be entered with the use of mouse and keyboard, and also the manipulation of icons to issue commands (*Microsoft Website*, 2009). With each year, there are modifications in the operating system. In October 2001, Microsoft released a new operating system known as Windows XP, the company's first operating system for consumers that was not based on MS-DOS. Vista, another recent version was released to the general public in January 2007. The aim of this study is to assess and compare users' perception and experiences with these two operating system, Microsoft Windows Vista and Windows XP operating systems. This is aimed at ensuring a better understanding between designers and users; once users need and experience are considered, the better the product's design and users perceived and actual use of the product.

The specific objectives of the research are:

- To examine what users want and what problems they experience using either Windows Vista or Windows XP
- To determine the factors responsible for the choice of particular Operating System.
- To assess the extent/quality and accessibility of the Windows Vista and Windows XP operating system's functionality.
- To evaluate users' experience on interaction with the Windows Vista and Windows XP operating system so as to identify specific problems with either the system or its interface
- To examine the levels of satisfaction or dissatisfaction expressed by users' of the Windows Vista and Windows XP operating Systems..

Research Questions

- What operating system do users' prefer and the problems associated with the operating system?
- What factors influences users' choice for this operating system?
- How often and to what extent do users use this operating system?
- What are user's experiences on interaction with Windows Vista as compared to Windows XP operating system?
- What is the level of users' satisfaction with the Windows Vista and Windows XP operating system?
-

Justification of the Study

The desire of every rational man is to seek how to minimize costs of acquiring or consuming a product as well maximizes benefits or utility value derivable from such a product. Contrarily, the development of Window vista as a brand of Operating System by Microsoft did not take cognizance of the possibility of maximizing benefits by the users despite the high cost of acquiring the product in which there have been several complaints on application compatibility issues and lack of proper drivers. Rather, it took cognizance of how to re-direct users psyche towards using a particular OS technology with security features that specifies what system users' can do with their own systems and not what the system users want their systems to do for them.

However, in the light of the ongoing subject this study aims at ascertaining why people use a particular OS, the level of satisfaction derived by the users of *window vista OS* in terms of its effectiveness and efficiency, as well to determine whether the OS has the required information package required by the users in order to glaringly clarify the factors considered in the course of developing OS and the impact of new OS technology on users.

Human-Computer Interaction

The user is often placed in the position of an absolute master over an awesomely powerful slave, who speaks a strange and painfully awkward tongue, whose obedience is immediate and complete but woefully thoughtless, without regard to the potential destruction of its master's things, rigid to the point of being psychotic, lacking sense, memory and compassion and worst of all-obvious consistency.
Miller and Thomas (1977, p.512)

The problem of HCI, such as cryptic error messages and inconsistent command syntax are well documented (Carroll, 1983; Nickerson, 1991) and traced back to the beginning of the computer revolution (Grudin, 1990). The impact of problematic HCI designs is magnified greatly by the advent of desktop computers, employed mainly by professionals for enhancing their work productivity. A faulty HCI design traps the user in unintended and mystifying circumstances. Consequently, the user may not adopt the system in his or her work because learning and using the system are too difficult and time-consuming: the business loses its investment in the system.

As concerns about HCI problem grew, research was conducted by both practitioners and scholars to find solution. Initially, researchers focused on enhancing programming environment in order to improve programmers' productivity. With the proliferation of desktop computer, it was discovered that non-technical users were not satisfied with the same type of environment that programmers used. Research has since expanded beyond technical considerations to investigating behavioural issues involving human motor skills, perception and cognition for developing functional, usable and learnable software. HCI is now an important scientific discipline built upon computer science, ergonomics, linguistics, psychology and social science.

Today's system designers are expected to apply these interdisciplinary principles to improve user satisfaction and productivity. This is a formidable task because HCI development is not an aspect of software design that can be illuminated by a single design approach. More importantly, there is a lack of guidance in applying HCI research findings to design practice. Consider a typical interface design based upon many decisions: which function and objects to include; how they are to be labeled and displayed; whether the interface should use command language, menus or icons; and how online help can be provided. Each of these decisions involves consideration of complicated and sometimes conflicting human factors. When all the decisions are considered, interface design becomes overwhelming. (Gerlach, 1991)

There have been studies carried out on Microsoft Windows vista Operating System and also a comparative study of the effectiveness and efficiency of both Windows Vista and Windows XP. One of such studies was that carried out by Principled Technologies, commissioned by Microsoft Corporation at the time of release of Windows Vista they were to develop and run a set of test that compared the responsiveness of windows Vista and Windows XP SP2 on common task of home users.

The goal of the test is to provide consumers with a sense of the differences in response time they would experience when performing the same home operation on each operating system. They measured how responsive each operating system was when performing a set of common home operations after, returning from standby, and in ongoing operation.

There were three major key findings which are:

- Overall, windows Vista SP1 and Windows XP performed comparably on most test operations. Differences were typically less than a half second and thus insignificant.
- Windows Vista SP2 was noticeably more responsive after rebooting than Windows XP on several common home Operations.
- Overall, Windows Vista SP1 and Windows XP performed comparably on most test operations, with difference typically less than a half second and thus insignificant. When Windows Vista SP1 was slower, the slowdown was always insignificant (less than a quarter of a second).

Another Study carried out by Microsoft (2008), was based on the new standard of security by the move from Windows XP to Windows Vista. According to George Stathakopoulos, General Manager, Microsoft Product Security center, he said "Since our last Security intelligence Report, Microsoft is extremely excited to have successfully launched Windows Vista, the most secure Microsoft operating system to date. Windows Vista is the first operating system developed end to end using our Security Development Lifecycle (SDL). Using SDL helped us to maintain a focus on security during the development of Windows Vista and to ensure that it was the highest quality product we could release. Several security related features were also included in Windows Vista, including User Account Control

(UAC), kernel patch protection, Windows Defender, Address Space layout Randomization (ASLR) and a lot more”.

The SDL is a complex methodology applied to the software development process in order to bulletproof a product. The end product of software build under the SDL is to deliver a minimal window for attacks, due to the reduced volume of security vulnerabilities concomitantly with the toning down of overall severity rating. In the compares of Windows Vista Security and Windows XP security, “Infection rates observed by the Microsoft Windows Malicious Software Removal Tool (MSRT) are significantly lower on Microsoft Windows XP SP2 and Windows Vista compared to older Operating systems. Moreover, the MSRT has proportionally cleaned malware from 60% less Windows Vista based computers compared to computer running Windows XP SP2, the MSRT has proportionally cleaned malware from 91.5% less Windows Vista-based computers than from computers running Windows XP without and y service pack installed,” the company claimed in their Security Intelligence Report.

According to Microsoft (2007) the grass is greener and more secure on the Windows Vista Pasture compared to Windows XP. The company’s position is understandable, first of all as a marketing campaign designed to educate the users. In the end security is a matter of perspective and perception. And with Vista, along with additional endeavors such as Window Live OneCare and the Forefront line as a foundation, Microsoft is attempting to build a strong reputation on the Security market, one that has been missing from the company’s portfolio so far. And in this context the sheer differences between Vista and XP without and SP speak for them as to Microsoft’s commitment to protecting its users.

A Review of Windows Vista: The Best Operating System or Just a Fancy Windows XP?

First of all it must be said that Windows Vista delivers a stunning looking user interface. Since the days of Windows 3.1, Microsoft has always pushed the boundaries of operating system visuals and ergonomics. In this regard Vista takes some beating. Futuristic and flashy, Vista has improved considerably since XP, largely because it uses the new Windows Aero technology to deliver a groundbreaking 3D graphics experience. Coupled with Windows 3D flip functionality Vista offers translucent windows, smooth performance and 3D views of all minimized windows, which is a groundbreaking concept, if a little OTT for simple application navigation. Of course this enhanced visual experience takes up more resources, and relying on DirectX9 may prevent Vista from being installed and run efficiently on low end spec PC’s. The enhanced graphics engine also makes 512MB of memory (quoted as the minimum specification requirement for Vista to run) a bit low. I would suggest a PC with a minimum of 1GB, certainly for optimum responsiveness and processor capability.

User interface and visual delivery aside, Vista combines superb compatibility with all major software components. It is also worth a special mention that the new Ready Boost functionality works extremely well, dealing with performance issues and allowing the user to ease resource usage by utilizing external USB flash drives as additional memory resources. From a backup and hardware standpoint Vista also delivers excellent results, providing seamless integration with all major hardware types and models. This in turn creates greater confidence in backup management.

In terms of speed of functionality Vista delivers an impressive set of results. Boot time is way beyond expectation, much faster than that of XP and the new deep sleep mode allows users to

virtually shut down their PC and then resume work quickly, without any loss of power or CPU resources.

One thing annoying about Windows Vista however is something that has always been the case with Microsoft delivered operating systems is the obsession with telling the end user exactly what is going on, all the time! Whether it is a plug-in, install, network connection, additional device - If there is a message to display, Vista will display it. Now this may be a personal gripe, and it goes without saying that it is not system critical but it is a drawback Microsoft really does need to address because their operating systems, Vista included, demand user attention. Linux and OS X on the other hand sit in the background working discretely, aiding the user without fuss or disturbance. These operating systems allow users to concentrate on applications, information needs and communications. This is, after all why we use computers in the first place.

This leads us to the final, fundamental problem with Vista. Whilst the vast majority of users will be happy with the fancy user interface and generic security features of a universally recognized operating system, Vista will continue to have the same issues with compromised security as its predecessors have. This is always going to be a problem for Microsoft no matter what the operating system, simply because it will always be the standard bearer.

Hence creating an abundance of opportunities for hackers, both malicious and non malicious, to find weak spots, loopholes and 'gremlins' that can create spying, anonymizing and breaching angles. Vista is slick and cutting edge, do not get me wrong, but there are considerably more functional alternatives which are safer and cheaper to boot.

The study aims at evaluating the users experience of operating system. The appropriate method adopted for this study was the social survey, which is the study of human behaviour with structured questionnaire and interview as the major tools. According to Travers (1978), the survey research design is often interested in some characteristics of the population, establishing the nature of existing conditions. Apart from being a technique for collecting a vast amount of information within a very limited time, its result can be analyzed easily for quick action. Hence, it was adopted for this study. In this study users' perception and evaluation of Windows Vista and XP in University of Ibadan, would be assessed through a survey of 312 users of the Windows Vista and Windows XP divided into two groups (Students and Staff).

Research Findings

The result shows a large population of male (54.5%) respondents to (31.4) female respondents. The table also reveals that (19.2%) of the students both undergraduates and postgraduates are all 100 level students and the list is 400level students, (25.3%) of postgraduates students was also observed. For staffs, both academic and non academic (9.3%) of the respondents are male to compare (4.8%) of female. And a large number of (10.6%) of Non academic staffs was also observed to compare (3.8%) of academic staffs.

The aim of this section is to evaluate the experience the Respondents are having in using their current operating system, we begin by evaluating how often they use computer, which was gotten from Table 4.2 that more than the average number of my respondents (65.4%) uses computer every day. to compare 1.6% that are novice in using computer. this is followed by evaluating the windows operating they are using.

Table 4.3 shows that (58.7%) of respondents use windows XP, while (41.3) are window vista users. study was also made on the level of expertise in the use of their current operating system, the results obtained in Table 4.4 shows that (34.0%) of the people are good this was followed by having (17.3%) of excellent and average users. the respondents were also ask to express the quality of their current operating system.

Table 4.4 revealed that (46.5%) of them said that the quality of their current operating system are Good, and (36.5%) said that it is VERY Good, while 2.2% said it is not good evaluation was also made on the use of their operating system on regular basis, the result gotten from Table 4.6 and Table 4.7 shows that (45.8%) are regular users of window vista, while (53.8%) are not regular use of windows vista. this was also followed that (69.6%) are regular users of window XP, while 30.1% are not.

This section of this research work is a step further in investigating the various factors that exist in comparing windows vista and windows XP operating system. in Table 4.8 the Respondents stated clearly the windows operating the prefer the most, of which (58.7%) of respondents prefers windows XP to 41.3% of windows vista, this show that more people uses window XP to windows vista. study was also made on the qualities and functions of window vista as compared to windows XP.

The results obtained from Table 4.9 revealed that the Respondents receives (38.8%) satisfactory from using window vista, and 11.2% very satisfactory, 27.9% of them were fairly satisfied, while 21.2% were not satisfied.

	Windows	N	Mean	Std.Deviati on	Std.Err or mean
Level of expertise in the use of operating system.	Vista	129	3.39	1.010	0.089
	XP	183	3.39	1.099	0.081
Level of education of respondents	Vista	116	3.81	1.892	0.176
	XP	152	3.49	1.983	0.161
Category of Staff	Vista	13	1.77	0.439	0.122
		32	1.72	0.457	0.081
Quality of current Operating System	Vista	129	1.81	0.748	0.066
	XP	183	1.84	0.767	0.057

For level of expertise in the use of the operating system, Table 4.10 shows that the mean scores are the same for users of Windows Vista and users of Windows XP (mean=3.39). However, use of Windows XP shows a greater deviation from the mean (standard deviation=1.099) when compared with the use of Windows Vista (standard deviation=1.010). Table 4.11 further shows that use of Windows Vista and use of Windows XP give a mean difference of -0.006. The result ($t=-0.048$, $p>0.05$) also shows that the mean difference between level of expertise in the use of Windows Vista and level of expertise in the use of Windows XP is not significant.

For level of education, Table 4.10 shows that the mean for users of Windows Vista is 3.81 while mean for users of Windows XP is 3.49. Use of Windows XP shows a greater deviation from the mean (standard deviation=1.983) when compared with the use of Windows Vista (standard deviation=1.892). Table 4.11 further shows that use of Windows Vista and use of Windows XP give a mean difference of 0.317. The result ($t=1.322$, $p>0.05$) also shows that

the mean difference between level of education of respondents in the use of Windows Vista and level of education of respondents in the use of Windows XP is not significant.

For staff use, Table 4.10 shows that the mean for users of Windows Vista is 1.77 and the mean for users of Windows XP is 1.72. Also, use of Windows XP shows a greater deviation from the mean (standard deviation=0.457) when compared with the use of Windows Vista (standard deviation=0.439). Table 4.11 further shows that use of Windows Vista and use of Windows XP give a mean difference of 0.050. The result ($t=0.340$, $p>0.05$) also shows that the mean difference between the category of staffs in the use of Windows Vista and Windows XP is not significant.

Finally, for the quality of operating system, Table 4.10 shows that the mean for users of Windows XP (1.84) is higher than the mean for users of Windows Vista (1.81). Also, use of Windows XP shows a greater deviation from the mean (standard deviation=0.767) when compared with the use of Windows Vista (standard deviation=0.748). Table 4.11 further shows that use of Windows Vista and use of Windows XP give a mean difference of -0.022. The result ($t=-0.253$, $p>0.05$) also shows that the mean difference between quality of current operating system in using Windows Vista and quality of current operating system in using Windows XP is not significant.

Table 4.11

	F	Sig.	T	Df	Sig(2-tailed)	Mean Diff.	S.E	95% CI	
								Lower	Upper
Level of expertise	1.701	.193	-.048	310	.962	-.006	.122	-.246	.235
Level of education	.492	.483	1.322	266	.187	.317	.240	-.155	.789
Category of Staff	.506	.481	.340	43	.736	.050	.149	-.249	.350
Quality of operating system	.003	.960	-.253	310	.800	-.022	.087	-.194	.150

Conclusion

Research studies have shown that in order to offer User friendly interfaces and Software it is necessary for Microsoft to investigate and conduct a feasibility study on the end users of these Windows Operating Systems. The study reveals that most Users of Windows XP. Find it difficult to adapt to Windows Vista, and this is due to the incompatibility with other software. Most users support Vista in terms of new designs and looks, but hate when it comes to the aspect of errors and performance and also expensive, the difference in price is significantly greater than Windows XP. Windows XP has its own faults, but the study reveals that it nothing compared to Windows Vista.

According to the responses received which was statistically analyzed using the statistical package for social sciences (SPSS ver.16.0) the following finding were obtained:

- The major Operating systems in the study area are Microsoft Windows XP and Windows Vista.
- Users who have made use of both Windows Vista and Windows XP, found satisfaction in Windows XP.

- Factors ranging from affordability and compatibility were observed to be paramount in making a choice of Operation system.
- The highest percentage of Users' experiences was found among users with either Windows Vista or Windows XP, was found among users of Windows XP.

Research has shown that interest in measurement of users' experiences is understandably high especially in the developed countries and the delivery of higher level of quality operating system is the strategy that is being offered as a key to operating system developers' effort to position themselves more effectively in the marketplace (Parasuraman,et al 1988, Brown and Swartz,1989). Hence a survey on the Users' experiences with Windows Vista and Windows XP cannot be over emphasized.

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