THE REPUBLIC OF TURKEY
BAHÇEŞEHİR UNIVERSITY

MEASURING THE AUDIT SOFTWARE USABILITYIN THE AUDIT SECTOR BY SUMI METHOD

M. S. Thesis

BARIŞ ARSLAN

İSTANBUL, 2013

THE REPUBLIC OF TURKEY
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THE GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES SOFTWARE ENGINEERING

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ABSTRACT

MEASURING THE AUDIT SOFTWARE USABILITY

IN THE AUDIT SECTOR BY SUMI METHOD

Barış ARSLAN

Software Engineering

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Computer assisted audit tools are important for today's audit industry. In today's global and competitive business environment business is often vulnerable to fraud. Identification of fraud from the financials is a hard process. Audit firms need a tool which helps them to identify fraud and find better audit evidence. Computer assisted audit tools software are the programs which help auditors during the audit process. An important factor of this audit software is its usability.

In this study, the Big Four audit firms, PriceWaterhouseCoopers, Ernst & Young, Deloitte Touche Tohmatsu and KPMG's audit software, are investigated from the point of view of their usability, and an attempt is made to measure the usability of the Big Four audit firms' main audit software.

Key Words: Computer Assisted Audit Tools, the Big Four Audit Firms, SUMI, Software Usability, Human Computer Interaction.

ÖZET

SUMI METODU İLE DENETİM SEKTÖRÜNDE KULLANILAN DENETİM YAZILIMLARININ KULLANILABİLİRLİĞİNİN ÖLÇÜLMESİ

Barış ARSLAN

Yazılım Mühendisliği

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Bilgisayar destekli denetim araçları günümüz denetim sektörü için büyük önem arz etmektedir. Günümüzün küresel ve rekabetçi iş ortamında, iş dünyası çoğu zaman hileye (suiistimale) başvurur. Hilenin finansal tablolara bakılarak ortaya çıkarılabilmesi zor bir süreçtir. Bu nedenle Denetim firmaları hileleri ve kaliteli denetim kanıtları bulmalarına yardımcı olacak bilgisayar destekli denetim araçlarını kullanırlar. Bilgisayar destekli denetim araçları denetim sürecinde denetçilere yardımcı programlardır. Bilgisayar destekli denetim araçlarının kullanımında en önemli faktör kullanım kolaylığıdır.

Bu çalışmada, 4 büyük Denetim firması; PriceWaterhouseCoopers, Ernst & Young, Deloitte Touche Tohmatsu ve KPMG'nin kullandığı yazılım programları kullanışlılık açısından araştırılmış ve 4 büyük denetim firmasının kullandığı ana denetim yazılımının kullanılabilirlik derecesi ölçülmeye çalışılmıştır.

Anahtar Kelimeler: Bilgisayar Destekli Denetim Araçları, 4 Büyük Denetim Firması, SUMI, Yazılım Kullanılabilirliği, İnsan Bilgisayar Etkileşimi.

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1. INTRODUCTION

1.1. PROBLEM DEFINITION

This aim of this study is:

"Measuring the audit software usability in the audit sector by SUMI method."

To reach this goal the usability of audit software tools is measured to see if these tools provide added value for the audit work. In service of this goal, end users' experiences will be measured to determine the usability of the audit software tools.

The audit software tools are mainly used in "The Big Four" audit companies. So, if the usability of the audit software tools in these firms can be measured the results of this measurement will be a good indicator in answering the main problem argued in this study.

1.2. THE BIG FOUR

In this part of the study, firstly the computer assisted audit tools will be explained. And secondly, the big four audit firms will be discussed briefly. During the discussion, the computer assisted audit tools that are used by the big four audit companies will be explained.

1.2.1. Computer Assisted Audit Tools

Globalization and rapid changes in information technologies affect most of the businesses in the world today. Business now has the ability to transfer information and cash rapidly, and multinational business arises. So, the economies of different countries affect one another to a much greater degree. Fluctuations in one economy can drastically affect other economies almost instantaneously. This dynamic was at work in the lead up to the global financial crises and contributed to how long it has lasted. Because of this situation, revenue sharing among companies became a handful operation. Companies that want to get a higher share from the revenues, try to show a better performance than their real performance. For this reason companies will often

commit fraud and submit irregular financial statements. This fraud is hard to discover. It not only affects organizations but also economies. In such a business environment the tasks of the audit firms become more difficult. In order to ferret out fraud they need new tools which would be able to help them. By this need the computer assisted audit tools are developed. Audit technology tools facilitate a more granular analysis of data and help to determine the accuracy of the information (Dugas, 2012).

Computer assisted audit tools can be defined as; any use of technology to assist in the completion of an audit (Pedrosa, Costa 2012, p.161). The computer assisted audit tools are used by every audit firm in the world. This is because computer assisted audit tools are helpful for simplifying and automating the data analysis process during audits.

Computer assisted audit tools are able to do various analyses. Some of the analyses that can be done with a computer assisted audit tool are as below (Bourke, 2010);

i. Filter / Display Criteria,
ii. Expressions / Equations,
iii. Gaps,
iv. Statistical Analysis,
v. Duplicates,
vi. Sort / Index,
vii. Benford's Law,
viii. Trend Analysis,
ix. Parallel Simulation,
x. Matching,
xi. Combination of One or More,
xii. Stratification,
xiii. Regression Analysis.

Computer assisted audit tools can be classified in four board categories; Data analysis software; Network security evaluation software/utilities; Operating Systems and Data Base Management System security evaluation software/utilities; Software and code testing tools (Pedrosa, Costa 2012, p.161).

The big four audit firms, PriceWaterhouseCoopers (PWC), Ernst & Young (E&Y), Deloitte Touche Tohmatsu (Deloitte) and KPMG are using computer assisted audit tools for better results of the audit process.

1.2.2. Who are the Big Four?

"The Big Four" term is used for the biggest auditing firms in the world audit industry. The firms comprise "The Big Four" are PriceWaterhouseCoopers, KPMG, Ernst & Young, and Deloitte Touche Tohmatsu. These firms are in a strong position in that they audit the financial statements of nearly all the global public companies in the world and, arguably, are the only audit firms able to do so (Ascher et al. 2010, p. 1).

It can be said that "The Big Four" auditing firms constitute a "tight oligopoly" in the audit industry. Their worldwide revenues are huge and the World's biggest organizations are the customers of these firms. Moreover all of these firms separately have a lot of employees that are hiring all over the world. For understanding the power of these firms, it would be better to examine the performance analysis of these firms for the year 2012. Before this, however, a brief history of each of the firms is in order.

PriceWaterhouseCoopers (PWC) is one of the world's pre-eminent professional services organizations. PWC is a network of firms in 158 countries with more than 180.000 people who are committed to delivering quality in assurance, tax and advisory services.[1]

PriceWaterhouseCoopers was founded in 1998 by the merge of two firms; Price Waterhouse and Coopers & Lybrand. The key milestones of these two firms and PWC are set out below;[2]

i. 1849: Samuel Lowell Price sets up in business in London,

[1] PWC 2013, p. 3.
[2] http://www.pwc.com/us/en/about-us/pwc-corporate-history.jhtml

ii. 1854: William Cooper establishes his own practice in London, which seven years later becomes Cooper Brothers,

iii. 1865: Price, Holyland and Waterhouse join forces in partnership 1874 Name changes to Price, Waterhouse & Co,

iv. 1898: Robert H. Montgomery, William M. Lybrand, Adam A. Ross Jr. and his brother T. Edward Ross form Lybrand, Ross Brothers and Montgomery,

v. 1957: Cooper Brothers & Co (UK), McDonald, Currie and Co (Canada) and Lybrand, Ross Bros & Montgomery (US) merge to form Coopers & Lybrand,

vi. 1982: Price Waterhouse World Firm formed,

vii. 1990: Coopers & Lybrand merges with Deloitte Haskins & Sells in a number of countries around the world,

viii. 1998: Worldwide merger of Price Waterhouse and Coopers & Lybrand to create PriceWaterhouseCoopers,

ix. 2002: PriceWaterhouseCoopers partners approve sale of PriceWaterhouseCoopers Consulting to IBM,

x. 2004: PriceWaterhouseCoopers implements the Connected Thinking methodology,

xi. 2010: PriceWaterhouseCoopers formally shortened its brand name to PWC. "PriceWaterhouseCoopers" remains the full name of the global organization for legal purposes, and will be the name used by PWC firms to sign company audits.

The other audit firm which is a member of "The Big Four" is Ernst & Young (E&Y). E&Y has a quite ancient history. The key milestones of E&Y are as below;[3]

i. 1849: Harding & Pullein founded in England. Joined by Frederick Whinney,

[3] http://www.ey.com/GL/en/About-us/Our-people-and-culture/Our-history/About-EY---Key-Facts-and-Figures---History---Timeline

ii. 1894: Arthur Young starts his first firm, Stuart and Young, in Chicago Harding & Pullein renamed Whinney, Smith & Whinney,

iii. 1903: Alwin and Theodore Ernst form Ernst & Ernst in Cleveland, US,

iv. 1906: Arthur and brother Stanley form Arthur Young & Company in Chicago,

v. 1924: Arthur Young allies with Broad Paterson & Co, England Ernst & Ernst allies with Whinney, Smith & Whinney,

vi. 1939: Clarkson allies with Woods Gordon & Co to expand into management consulting,

vii. 1944: Clarkson Gordon & Company allies with Arthur Young & Co,

viii. 1979: Ernst & Whinney forms and becomes the fourth largest accountancy firm in the World Arthur Young's European offices join several large local European firms,

ix. 1989: Arthur Young merges with Ernst & Whinney to create Ernst & Young,

x. 2000: Ernst & Young unveils a new, integrated global organization.

Deloitte is a group firm that has independent firms which hire nearly 200,000 professionals within their body. The firms that are a member of Deloitte are providing services all over the World. As a rule the main company Deloitte Touche Tohmatsu (Deloitte) does not directly provide services to the customers. The member firms are providing customers.

Deloitte is one of the biggest audit firms in the audit industry. A brief history of the firm is as below;[4]

i. 1833: At the age of 15, William Welch Deloitte becomes an assistant to the Official Assignee at the Bankruptcy Court in the City of London. This was

[4] http://www.deloitte.com/view/en_GX/global/about/overview/history/index.htm

the ideal apprenticeship at that time for a young man with an interest in the rapidly developing field of public accounting,

ii. 1854: Royal Charter is granted to the Society of Accountants in Edinburgh, the first organized body of public accountants in the world. Among its founders was Alexander Thomas Niven, under whose tutelage George A. Touche would qualify as an accountant in Edinburgh 29 years later, before setting off for London to practice his profession,

iii. 1952: Nobuzo Tohmatsu qualifies as a certified public accountant in Japan and becomes a partner in a foreign-affiliated accounting firm,

iv. 1960: Touche, Niven, Bailey & Smart merges with George Touche & Co. (Britain) and Ross, Touche & Co. (Canada) to form Touche, Ross, Bailey & Smart,

v. 1975: Formal agreement is signed by which Tohmatsu Awoki & Co. become part of the Touche Ross International network,

vi. 1978: The name Deloitte Haskins & Sells is adopted,

vii. 1996: Deloitte & Touche Eastern Europe divided into two organizations - Deloitte & Touche Central Europe and Deloitte & Touche CIS,

viii. 1998: International organization name is changed to Deloitte Touche Tohmatsu.

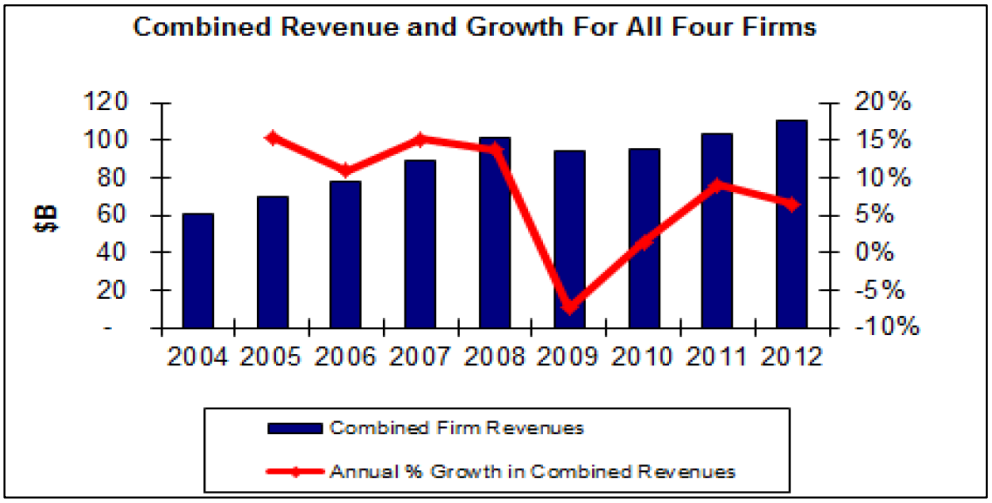
The last firm which is a part of the term "The Big Four" is KPMG. Like the other auditing firms, KPMG took its final form after mergers. The KPMG network was founded in 1987. Peat Marwick International and Klynveld Main Goerdeler merged and founded KPMG. The two firms which comprised KPMG were also merged firms. Piet Klynveld founded the accounting firm Klynveld Kraayenhof & Co in Amsterdam in 1917, William Barclay Peat founded the accounting firm Peat & Co in London, James Marwick established the accounting firm Marwick, Mitchell & Co in New York City in 1897 and Dr. Reinhard Goerdeler was the first president of the International Federation

of Accountants and a chairman of KMG. He is credited with laying the foundations of the Klynveld Main Goerdeler merger.[5]

After a brief history of these four big audit firms, it would be better to glance at their performance analysis for the year 2012 to better understand their power in the audit industry.

These four companies are hiring nearly 690,000 employees all over the world in 2012. They have got nearly 37,000 partners that are located different countries in the world. Not only their employer power but also the combined revenues of these four firms are huge. Their combined revenues are increased 6 percent from the year 2011 to 2012. The graph below illustrates the combined revenues of these firms between the years 2004 and 2012.

Figure 1.1: Combined Revenues of "The Big Four"



Source: (Big4 2013, p.3).

As it can be seen from the above graph these firms have huge revenues. If a performance analysis would be done among these firms it can be said that; for the years 2007 – 2012 PWC solely has the highest revenue among these firms. From 2007 to 2012 PWC has the highest revenue. The table below illustrates the revenues of the audit firms;

[5] http://www.kpmg.com/Global/en/about/Performance/Pages/History.aspx

Table 1.1: Revenues (Solo) of the Firms (Between Years 2007 – 2012)

In billions of US$	2007	2008	2009	2010	2011	2012
Deloitte	23.1	27.4	26.1	26.6	28.8	31.3
E&Y	21.1	23.0	21.4	21.2	22.9	24.4
KPMG	19.8	22.7	20.1	20.7	22.7	23.0
PWC	25.1	28.2	26.2	26.6	29.2	31.5

Source: (Big4 2013, p.4).

It is believed that giving these statistics about these firms are helpful for understanding why the questionnaire about the usability of the computer assisted audit tools are applied to these firms. As it can be seen from the statistics these firms are nearly subsumes the whole audit industry. So, before analyzing the computer assisted audit tools, the tools that are using by these firms would be explained briefly.

The firms that comprise "The Big Four" are using different computer assisted audit tools. The computer assisted audit tools that are used by the companies are as the table below;

Table 1.2: The Computer Assisted Audit Tools Used by "The Big Four"

Audit Firm	**Computer Assisted Audit Tool**
KPMG	Caseware
Deloitte	AuditSystem2
E & Y	Groove Audit Software
PWC	Lotus Notes

Caseware International Inc. is the computer assisted audit tool that is used by KPMG. Caseware International Inc.is a business leader in world software industry. The firm builds programs for accountants, auditors and professionals.

KPMG is using a software program which is developed by a group company of Caseware International Inc.; Caseware IDEA Inc. The program's name is IDEA and KPMG prefers to use this program since September 2004. IDEA is the global tool that KPMG and all of its partners are using.

According to IDEA it is one of the most user-friendly, high-performance audit analytics software available. IDEA simplifies workflows, and the economy, efficiency, and

effectiveness of the audit process and makes sense of it all for consistent, high-performance audits.[6]

The software program that is used by Deloitte is “Audit System.” “Audit System” is an automated work paper preparation and engagement documentation software package which is used in all of the Deloitte partners throughout the World. According to the information in the official website of Deloitte, the major components of the software program is as follow:[7]

i. Document Manager - provides an electronic "folder" system to help track, manage, organize, and import information normally stored in paper-based engagement files,

ii. Smart Audit Support - provides you with electronic support for tracking and reporting the results of your audits,

iii. Work paper Preparation - provides Microsoft Word and Excel-based work paper templates that can be customized to meet specific engagement needs, including a number of features built-in to assist both preparers and reviewers of engagement documentation,

iv. Audit Universe and Risk Assessment - provides you with step-by-step electronic support for defining an audit universe, developing a risk model, executing a risk model, prioritizing auditable segments, scheduling audits, and following up on audit findings (issues),

v. Access to Information - uses Folio technology to provide online access to guidance and reference materials. The specific guidance for the Internal Audit pack is the Internal Audit Methodology located in Folio Views.

Groove Audit Software is the program which is used by E&Y. Groove Audit Tools are Microsoft Based Software. Groove Audit is an optional feature provided with Groove Server Manager Installation. When installed and enabled, the Audit feature provides a mechanism for collecting specific information about Groove user events into SQL

[6] Caseware International Inc., 2012
[7] http://www.deloitte.com/view/en_GR/gr/services/enterprise-risk-services/tools/auditsystem2/index.htm

databases. IT administrators can interpret the stored data and process it using SQL queries or format audit output using external SQL reporting tools. These results can facilitate the oversight and secure management of Groove user activities.[8]

The computer assisted audit tool which PWC uses is Lotus Notes. Lotus Notes is an IBM software platform. Lotus Notes is a software package which lets its users to access to all of its business applications, social networks, e-mails, calendars.

[8] Microsoft 2007, p.4.

2. BACKGROUND

2.1. SOFTWARE USABILITY

Although the importance of usability as an objective is now widely recognized, it has proved difficult to operationalize usability and integrate it into conventional software practice (Bevan 1995, p.116).

Measuring software usability is important because of some reasons. Usable software has a lot of benefits that will affect not only employees but also the suppliers. Usable software increases productivity and reduces costs. If software is difficult to use, in other words, if software is time consuming to use, and not exploited to full advantage, the user may be discouraged from using advanced features. Also, if learning to use the software is difficult, the cost of training and of subsequent support would improve (Bevan, Macleod 1994, p.133).

From the view point of the software suppliers, usability of software is also a very important factor. Because, the end users are only satisfied if the software programs are user-friendly. For customer satisfaction, suppliers try to improve usable software. At this point it can be said that measuring of software usability is an important factor. But there are still some arguments about how to evaluate the product, which tools and instruments should be used for measuring the software usability.

In today's world, one of the most common technique that is using for measuring or in other words evaluating software usability is; Software Usability Measurement Inventory (SUMI).

SUMI was developed in the project 'Metrics for Usability Standards in Computing' (MUSiC, CEC ESPRIT project number 5429) by the Human Factors Research Group (HFRG), University College, Cork. Software Usability Measurement Inventory (SUMI) is a solution to the recurring problem of measuring users' perception of the usability of software. It provides a valid and reliable method for the comparison of products and different versions of the same products, as well as providing diagnostic information for future developments (Mansor et.al 2012, p. 198).

In this study, to measure audit software, usability SUMI is also used. This method is the most common method for measuring software usability.

2.2. AUDIT SOFTWARE USABILITY

The below statements allow a better understanding of how important it is to measure software usability by the SUMI;

i. SUMI can assist companies and institutions in identifying their software lacks and needs,

ii. SUMI can sharpen end users perceptions of what they should be looking for in a computer system,

iii. SUMI profiles can be used for making the software package decisions. For example need for adding training services to the software agreement,

iv. SUMI also can be used for comparing different versions of software. Sometimes it can be seen that old version of the software can be better,

v. In different approaches using SUMI for evaluating software can help to reduce effectiveness of the company operations and decrease operational costs.

3. MATERIAL AND METHODS

3.1. RESEARCH MODEL

This research has been conducted according to the "design model." A design model is a research approach which attempts to describe a situation which existed in the past or still exists today. The subject, the individual or the object is described and defined in the way that it exists. No effort is made to change or enhance the subject, the individual or the object (Karasar, 2009, p.77).

3.2. SAMPLE

The sample comprises of the four different audit firms which are using audit software. In other words, four different software applications are compared in this study. The firms which are chosen are using the modern software normatively. 25 employees are chosen from each of the four firms and the sample of this study is formed as 100 employees.

3.3. DATA COLLECTION TOOL

The data collection tool of this study is questionnaire. The questionnaire consists of restrictive questions and the SUMI Scale.

The Software Usability Measurement Inventory (SUMI) is a rigorously tested and proven method of measuring software quality from the end user's point of view.[9]

The **Software Usability Measurement Inventory** is a rigorously tested and proven method of measuring *software quality* from the *end user's point of view*. Work on SUMI started in the late 1990s, and consists of 50 likert expressions. These expressions are collected in five topics; efficiency, affect, helpfulness, control and learnability.[10]

The reliability of the SUMI scale is found 0.899 which is a high ratio.

[9] http://sumi.ucc.ie/whatis.html
[10] http://sumi.ucc.ie/sumipapp.html

3.4. STATISTICAL ANALYSIS OF DATA

The data that are derived from the research are analyzed by the SPSS (Statistical Package for Social Sciences) for Windows 17.0. The descriptive statistical methods (Number, Percentage, Mean and Standard Deviation) are used. During the analysis of the quantitative data, if there are two groups situation, the parameters are compared among the groups by the help of One Way ANOVA Test. To determine the group that causes discrepancy the Scheffe Test is used. The relationship among the variables of the research is analyzed with the Pearson Correlation Analysis. The findings of the research are evaluated in 95 percent confidence interval and 5 percent significance level.

4. FINDINGS AND DISCUSSION

In this part of the study, for the solution of the research problem, the findings from the data which are collected from the employees according to scales are explained. The findings are explained in detail and discussed.

4.1. DESCRIPTIVE FINDINGS

Table 4.1: Distribution of Employees According to Education Level

	Groups	Frequency(n)	Percentage (%)
Education Level	Undergraduate	78	78.0
	Postgraduate	22	22.0
	Total	100	100.0

According to the education level variable the 78 percent of the employees have undergraduate degree and the 22 percent of the employees have postgraduate degree.

Table 4.2: Distribution of Employees According to Gender

	Groups	Frequency(n)	Percentage (%)
Gender	Female	37	37.0
	Male	63	63.0
	Total	100	100.0

As it can be seen from the table above, the 37 percent of the employees is female and the 63 percent of the employees are male.

Table 4.3: Distribution of Employees According to Age

	Groups	Frequency(n)	Percentage (%)
Age	21-25 Age	30	30.0
	26-30 Age	53	53.0
	31-35 Age	12	12.0
	36-40 Age	5	5.0
	Total	100	100.0

According to the table above, the 30 percent of the employees are between the ages 21-25, the 53 percent of the employees are between the ages 26-30, the 12 percent of the

employees are between the ages of 31-35, and the 5 percent of the employees are between the ages of 36-40.

Table 4.4: Distribution of Employees According to the Firm Worked at

	Groups	Frequency(n)	Percentage (%)
The Firm Worked in	Firm A	25	25.0
	Firm B	25	25.0
	Firm C	25	25.0
	Firm D	25	25.0
	Total	100	100.0

The 25 percent of the employees is working in Firm A, the 25 percent of the employees is working for Firm B, the 25 percent of the employees is working for Firm C, and the 25 percent of the employees are working in Firm D.

Table 4.5: Distribution of Employees According to Title

	Groups	Frequency(n)	Percentage (%)
Title	Assistant Auditor	34	34.0
	Auditor	33	33.0
	Senior Auditor	20	20.0
	Audit Manager	13	13.0
	Total	100	100.0

34 percent of the employees that are attended to the research are assistant auditors, 33 percent of the employees that are attended to the research are auditors, 20 percent of the employees that are attended to the research are senior auditors, and 13 percent of the employees that are attended to the research are audit managers.

Table 4.6: Distribution of Employees According to Professional Experience

	Groups	Frequency(n)	Percentage (%)
Professional Experience	0-1 Year	16	16.0
	1-2 Year	13	13.0
	2-5 Year	28	28.0
	5-9 Year	40	40.0
	Above 10 Years	3	3.0
	Total	100	100.0

The distribution of the employees according to professional experience is; 16 percent of the employees have 0-1 years professional experience, 13 percent of the employees have 1-2 years professional experience, 28 percent of the employees have 2-5 years professional experience, 40 percent of the employees have 5-9 years professional experience, and 3 percent of the employees have a professional experience above 10 years.

Table 4.7: Distribution of Employees According to Audit Field

	Groups	**Frequency(n)**	**Percentage (%)**
Audit Field	Financial Audit	66	66.0
	Tax Audit	27	27.0
	Consultancy Service	7	7.0
	Total	100	100.0

66 percent of the employees that were part of the research are working in the financial audit field, 27 percent of them are working in the tax audit field, and 7 percent of them are working in consultancy services.

4.2. FINDINGS ABOUT LEVEL OF SATISFACTION

Table 4.8: Distribution of Satisfaction Levels

	N	**Average**	**Standard Deviation**	**Min.**	**Max.**
Efficiency	100	3.105	0.548	2.000	4.500
Affect	100	3.044	0.382	1.900	3.800
Helpfulness	100	3.138	0.487	2.100	4.300
Controllability	100	3.207	0.598	1.600	5.000
Learnability	100	3.097	0.249	2.400	3.900

The level of “Efficiency” of the employees agree to the research is medium (3.105 ± 0.548); the level of “Affect” is medium (3.044 ± 0.382); the level of “Helpfulness” is medium (3.138 ± 0.487); the level of “Controllability” is medium (3.207 ± 0.598); and the level of “Learnability” is medium (3.097 ± 0.249).

The satisfaction levels can be seen from the figure:

Figure 4.1: Satisfaction Levels

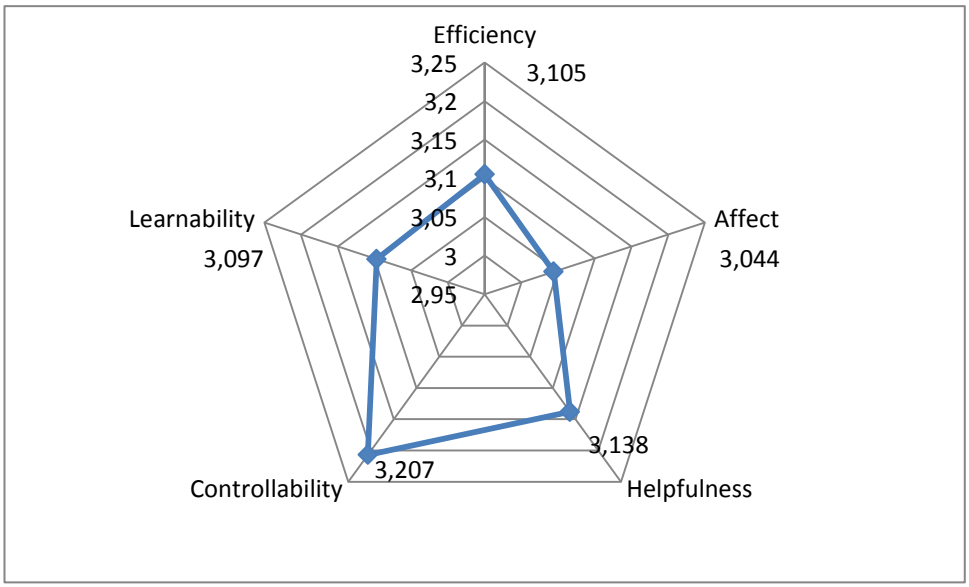


Table 4.9: The Average of the Answers Given to the Efficiency Expressions

	N	Average	Standard Deviation	Min.	Max.
This software responds too slowly to inputs.	100	2.970	1.000	1.000	5.000
I would recommend this software to my colleagues.	100	3.340	0.987	1.000	5.000
The instructions and prompts are helpful.	100	3.590	0.818	2.000	5.000
This software has at some time stopped unexpectedly.	100	2.650	1.009	1.000	4.000
Learning to operate this software initially is full of problems.	100	3.130	1.079	1.000	5.000
I sometimes don't know what to do next with this software.	100	3.050	1.019	1.000	5.000
I enjoy the time I spend using this software.	100	3.040	0.974	1.000	5.000
I find that the help information given by this software is not very useful.	100	2.790	0.868	1.000	5.000
If this software stops it is not easy to restart it.	100	3.140	1.005	1.000	5.000
It takes too long to learn the software functions.	100	3.350	0.968	1.000	5.000

According to the table above, the answers of the employees given to the efficiency expressions are as below. The employee's agreement levels with the expressions are stated below:

i. "This software responds too slowly to inputs,": medium (2.970 ± 1.000) agreement level,

ii. "I would recommend this software to my colleagues": medium (3.340 ± 0.987) agreement level,

iii. "The instructions and prompts are helpful": high (3.590 ± 0.818) agreement level,

iv. "This software has at some time stopped unexpectedly.": medium (2.650 ± 1.009) agreement level,

v. "Learning to operate this software initially is full of problems.": medium (3.130 ± 1.079) agreement level,

vi. "I sometimes don't know what to do next with this software.": medium (3.050 ± 1.019) agreement level,

vii. "I enjoy the time I spend using this software.": medium (3.040 ± 0.974) medium agreement level,

viii. "I find that the help information given by this software is not very useful.": medium (2.790 ± 0.868) agreement level,

ix. "If this software stops it is not easy to restart it.": medium (3.140 ± 1.005) agreement level,

x. "It takes too long to learn the software functions.": medium (3.350 ± 0.968) agreement level.

Table 4.10: The Average of the Answers Given to the Affect Expressions

	N	Average	Standard Deviation	Min.	Max.
I sometimes wonder if I am using the right function.	100	3.050	0.936	1.000	5.000
Working with this software is satisfying.	100	3.210	0.946	1.000	5.000
The way that system information is presented is clear and understandable.	100	3.460	0.834	1.000	5.000
I feel safer if I use only a few familiar functions.	100	2.340	0.867	1.000	4.000
The software documentation is very informative.	100	3.350	0.857	1.000	5.000
This software seems to disrupt the way I normally like to arrange my work.	100	2.910	0.900	1.000	5.000
Working with this software is mentally stimulating.	100	3.200	0.778	2.000	5.000
There is never enough information on the screen when it's needed.	100	3.130	1.002	1.000	5.000
I feel in command of this software when I am using it.	100	3.310	0.677	2.000	5.000
I prefer to stick to the functions that I know best.	100	2.480	0.969	1.000	4.000

According to the table above, the answers of the employees given to the affect expressions are as below. The employee's agreement levels with the expressions are stated below:

i. "I sometimes wonder if I am using the right function.": medium (3.050 ± 0.936) agreement level,

ii. "Working with this software is satisfying.": medium (3.210 ± 0.946) agreement level,

iii. "The way that system information is presented is clear and understandable.": high (3.460 ± 0.834) agreement level,

iv. "I feel safer if I use only a few familiar functions.": low (2.340 ± 0.867) agreement level,

v. "The software documentation is very informative.": medium (3.350 ± 0.857) agreement level,

vi. “This software seems to disrupt the way I normally like to arrange my work.”: medium (2.910 ± 0.900) agreement level,

vii. “Working with this software is mentally stimulating.”: medium (3.200 ± 0.778) agreement level,

viii. “There is never enough information on the screen when it's needed.”: medium (3.130 ± 1.002) agreement level,

ix. “I feel in command of this software when I am using it.”: medium (3.310 ± 0.677) agreement level,

x. “I prefer to stick to the functions that I know best.”: low (2.480 ± 0.969) agreement level.

Table 4.11: The Average of the Answers Given to the Helpfulness Expressions

	N	**Average**	**Standard Deviation**	**Min.**	**Max.**
I think this software is inconsistent.	100	3.340	0.997	2.000	5.000
I would not like to use this software every day.	100	2.880	1.066	1.000	5.000
I can understand and act on the information provided by this software.	100	3.510	0.745	2.000	5.000
This software is awkward when I want to do something which is not standard.	100	2.940	1.023	1.000	5.000
There is too much to read before you can use the software.	100	2.920	1.089	1.000	5.000
Tasks can be performed in a straight forward manner using this software.	100	3.210	0.856	2.000	5.000
Using this software is frustrating.	100	3.440	0.868	2.000	5.000
The software has helped me overcome any problems I have had in using it.	100	3.170	0.985	1.000	5.000
The speed of this software is fast enough.	100	3.100	1.185	1.000	5.000
I keep having to go back to look at the guides.	100	2.870	1.070	1.000	5.000

According to the table above, the answers of the employees given to the helpfulness expressions are as below. The employee’s agreement levels with the expressions are stated below:

i. “I think this software is inconsistent.”: medium (3.340 ± 0.997) agreement level,

ii. “I would not like to use this software every day.”: medium (2.880 ± 1.066) agreement level,

iii. “I can understand and act on the information provided by this software.”: high (3.510 ± 0.745) agreement level,

iv. “This software is awkward when I want to do something which is not standard.”: medium (2.940 ± 1.023) agreement level,

v. “There is too much to read before you can use the software.”: medium (2.920 ± 1.089) agreement level,

vi. “Tasks can be performed in a straight forward manner using this software.”: medium (3.210 ± 0.856) agreement level,

vii. “Using this software is frustrating.”: high (3.440 ± 0.868) agreement level,

viii. “The software has helped me overcome any problems I have had in using it.”: medium (3.170 ± 0.985) agreement level,

ix. “The speed of this software is fast enough.”: medium (3.100 ± 1.185) agreement level,

x. “I keep having to go back to look at the guides.”: medium (2.870 ± 1.070) agreement level.

Table 4.12: The Average of the Answers Given to the Controllability Expressions

	N	Average	Standard Deviation	Min.	Max.
It is obvious that user needs have been fully taken into consideration.	100	3.420	0.912	1.000	5.000
There have been times in using this software when I have felt quite tense.	100	2.750	0.892	1.000	5.000
The organization of the menus seems quite logical.	100	3.600	0.778	2.000	5.000
The software allows the user to be economical with keystrokes.	100	3.260	0.824	2.000	5.000
Learning how to use new functions is difficult.	100	3.380	0.982	1.000	5.000
There are too many steps required to get something to work.	100	2.940	1.043	1.000	5.000
I think this software has sometimes given me a headache.	100	2.870	0.971	1.000	5.000
Error messages are not adequate.	100	3.170	0.865	1.000	5.000
It is easy to make the software do exactly what you want.	100	3.520	0.893	1.000	5.000
I will never learn to use all that is offered in this software.	100	3.160	0.907	1.000	5.000

According to the table above, the answers of the employees given to the controllability expressions are as below. The employee's agreement levels with the expressions are stated below:

i. "It is obvious that user needs have been fully taken into consideration.": high (3.420 ± 0.912) agreement level,

ii. "There have been times in using this software when I have felt quite tense.": medium (2.750 ± 0.892) agreement level,

iii. "The organization of the menus seems quite logical.": high (3.600 ± 0.778) agreement level,

iv. "The software allows the user to be economical with keystrokes.": medium (3.260 ± 0.824) agreement level,

v. "Learning how to use new functions is difficult.".: medium (3.380 ± 0.982) agreement level,

vi. “There are too many steps required to get something to work.”: medium (2.940 ± 1.043) agreement level,

vii. “I think this software has sometimes given me a headache.”: medium (2.870 ± 0.971) agreement level,

viii. “Error messages are not adequate.”: medium (3.170 ± 0.865) agreement level,

ix. “It is easy to make the software do exactly what you want.”: high (3.520 ± 0.893) agreement level,

x. “I will never learn to use all that is offered in this software.”: medium (3.160 ± 0.907) agreement level.

Table 4.13: The Average of the Answers Given to the Learnability Expressions

	N	**Average**	**Standard Deviation**	**Min.**	**Max.**
The software hasn't always done what I was expecting.	100	3.130	0.917	1.000	5.000
The software presents itself in a very attractive way.	100	3.330	0.792	2.000	5.000
Either the amount or quality of the help information varies across the system.	100	2.620	0.582	2.000	4.000
It is relatively easy to move from one part of a task to another.	100	3.610	0.875	1.000	5.000
It is easy to forget how to do things with this software.	100	3.180	1.029	1.000	5.000
This software occasionally behaves in a way which can't be understood.	100	2.790	0.880	1.000	5.000
This software is really very awkward.	100	3.290	0.902	1.000	5.000
It is easy to see at a glance what the options are at each stage.	100	3.470	0.643	2.000	5.000
Getting data files in and out of the system is not easy.	100	2.580	1.007	1.000	5.000
I have to look for assistance most times when I use this software.	100	2.970	1.029	1.000	5.000

According to the table above, the answers of the employees given to the learnability expressions are as below. The employee’s agreement levels with the expressions are stated below:

i. “The software hasn't always done what I was expecting.”: medium (3.130 ± 0.917) agreement level,

ii. “The software presents itself in a very attractive way.”: medium (3.330 ± 0.792) agreement level,

iii. “Either the amount or quality of the help information varies across the system.”: medium (2.620 ± 0.582) agreement level,

iv. “It is relatively easy to move from one part of a task to another.”: high (3.610 ± 0.875) agreement level,

v. “It is easy to forget how to do things with this software.”: medium (3.180 ± 1.029) agreement level,

vi. “This software occasionally behaves in a way which can't be understood.”: medium (2.790 ± 0.880) agreement level,

vii. “This software is really very awkward.”: medium (3.290 ± 0.902) agreement level,

viii. “It is easy to see at a glance what the options are at each stage.”: high (3.470 ± 0.643) agreement level,

ix. “Getting data files in and out of the system is not easy.”: low (2.580 ± 1.007) agreement level,

x. “I have to look for assistance most times when I use this software.”: medium (2.970 ± 1.029) agreement level.

Table 4.14: The Averages of the Satisfaction Level According to the Computer Software in Use

	Group	N	Medium	Standard Deviation	F	p	Difference
Efficiency	Firm A	25	3.252	0.379	5.067	0.003	1> 3 2 > 3
	Firm B	25	3.304	0.489			
	Firm C	25	2.788	0.622			
	Firm D	25	3.076	0.548			
Affect	Firm A	25	2.980	0.376	2.840	0.042	2 > 1 2 > 3
	Firm B	25	3.204	0.353			
	Firm C	25	2.916	0.390			
	Firm D	25	3.076	0.367			
Helpfulness	Firm A	25	3.252	0.427	4.675	0.004	1 > 3 2 > 3
	Firm B	25	3.324	0.504			
	Firm C	25	2.872	0.467			
	Firm D	25	3.104	0.444			
Controllability	Firm A	25	3.384	0.641	4.279	0.007	1 > 3 2 > 3 4 > 3
	Firm B	25	3.368	0.636			
	Firm C	25	2.876	0.513			
	Firm D	25	3.200	0.469			
Learnability	Firm A	25	3.204	0.219	7.658	0.000	1 > 3 2 > 3 4 > 3 1 > 4
	Firm B	25	3.180	0.224			
	Firm C	25	2.928	0.249			
	Firm D	25	3.076	0.215			
General Satisfaction	Firm A	25	3.214	0.300	6.182	0.001	1 > 3 2 > 3 4 > 3
	Firm B	25	3.276	0.387			
	Firm C	25	2.876	0.359			
	Firm D	25	3.106	0.365			

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the efficiency according to the firm which attendants are working for is found statistically significant ($F=5.067$; $p=0.003<0.05$).

For finding out the source of differences "post-hoc" analysis is done. According to this analysis;

i. The efficiency points of the attendants who work for Firm A are (3.252 ± 0.379) and are higher than the efficiency points of the attendants who work for Firm C (2.788 ± 0.622),

ii. The efficiency points of the attendants who work for Firm B are (3.304 ± 0.489) and are higher than the efficiency points of the attendants who work for Firm C (2.788 ± 0.622).

iii. According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the affect according to the firm which attendants are working for is found statistically significant ($F=2.840$; $p=0.042<0.05$).

For finding out the source of differences "post-hoc" analysis is done. According to this analysis;

i. The affect points of the attendants who work for Firm B are (3.204 ± 0.353) and are higher than the efficiency points of the attendants who work for Firm A (2.980 ± 0.376),

ii. The affect points of the attendants who work for Firm B are (3.204 ± 0.353) and are higher than the efficiency points of the attendants who work for Firm C (2.916 ± 0.390).

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the helpfulness according to the firm which attendants are working for is found statistically significant ($F=4.675$; $p=0.004<0.05$).

For finding out the source of differences "post-hoc" analysis is done. According to this analysis;

i. The helpfulness points of the attendants who work for Firm A are (3.252 ± 0.427) and are higher than the efficiency points of the attendants who work for Firm C (2.872 ± 0.467),

ii. The helpfulness points of the attendants who work for Firm B are (3.324 ± 0.504) and are higher than the efficiency points of the attendants who work for Firm C (2.872 ± 0.467).

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the controllability according to the firm which attendants are working for is found statistically significant ($F=4.279$; $p=0.007<0.05$).

For finding out the source of differences “post-hoc” analysis is done. According to this analysis;

i. The controllability points of the attendants who work for Firm A are (3.384 ± 0.641) and are higher than the efficiency points of the attendants who work for Firm C (2.876 ± 0.513),

ii. The controllability points of the attendants who work for Firm B are (3.368 ± 0.636) and are higher than the efficiency points of the attendants who work for Firm C (2.876 ± 0.513),

iii. The controllability points of the attendants who work for Firm B are (3.200 ± 0.469) and are higher than the efficiency points of the attendants who work for Firm C (2.876 ± 0.513).

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the learnability according to the firm which attendants are working for is found statistically significant ($F=7.658$; $p=0.000<0.05$).

For finding out the source of differences “post-hoc” analysis is done. According to this analysis;

i. The learnability points of the attendants who work for Firm A are (3.204 ± 0.219) and is higher than the efficiency points of the attendants who work for Firm C (2.928 ± 0.249),

ii. The learnability points of the attendants who work for Firm B are (3.180 ± 0.224) and are higher than the efficiency points of the attendants who work for Firm C (2.928 ± 0.249),

iii. The learnability points of the attendants who work for Firm D are (3.076 ± 0.215) and are higher than the efficiency points of the attendants who work for Firm C (2.928 ± 0.249),

iv. The learnability points of the attendants who work for Firm A are (3.204 ± 0.219) and are higher than the efficiency points of the attendants who work for Firm D (3.076 ± 0.215).

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the general satisfaction level points according to the firm which attendants are working for is found statistically significant ($F=6.182$; $p=0.001<0.05$).

For finding out the source of differences "post-hoc" analysis is done. According to this analysis;

i. The average satisfaction level points of the attendants who work for Firm A are (3.214 ± 0.300) and are higher than the efficiency points of the attendants who work for Firm C (2.876 ± 0.359),

ii. The average satisfaction level points of the attendants who work for Firm B are (3.276 ± 0.387) and are higher than the efficiency points of the attendants who work for Firm C (2.876 ± 0.359),

iii. The average satisfaction level points of the attendants who work for Firm D are (3.106 ± 0.365) and are higher than the efficiency points of the attendants who work for Firm C (2.876 ± 0.359).

The figure below shows the satisfaction level distributions of the attendants according to the firms they are working for.

Figure 4.2: Satisfaction Level Distribution According to the Firms Worked for

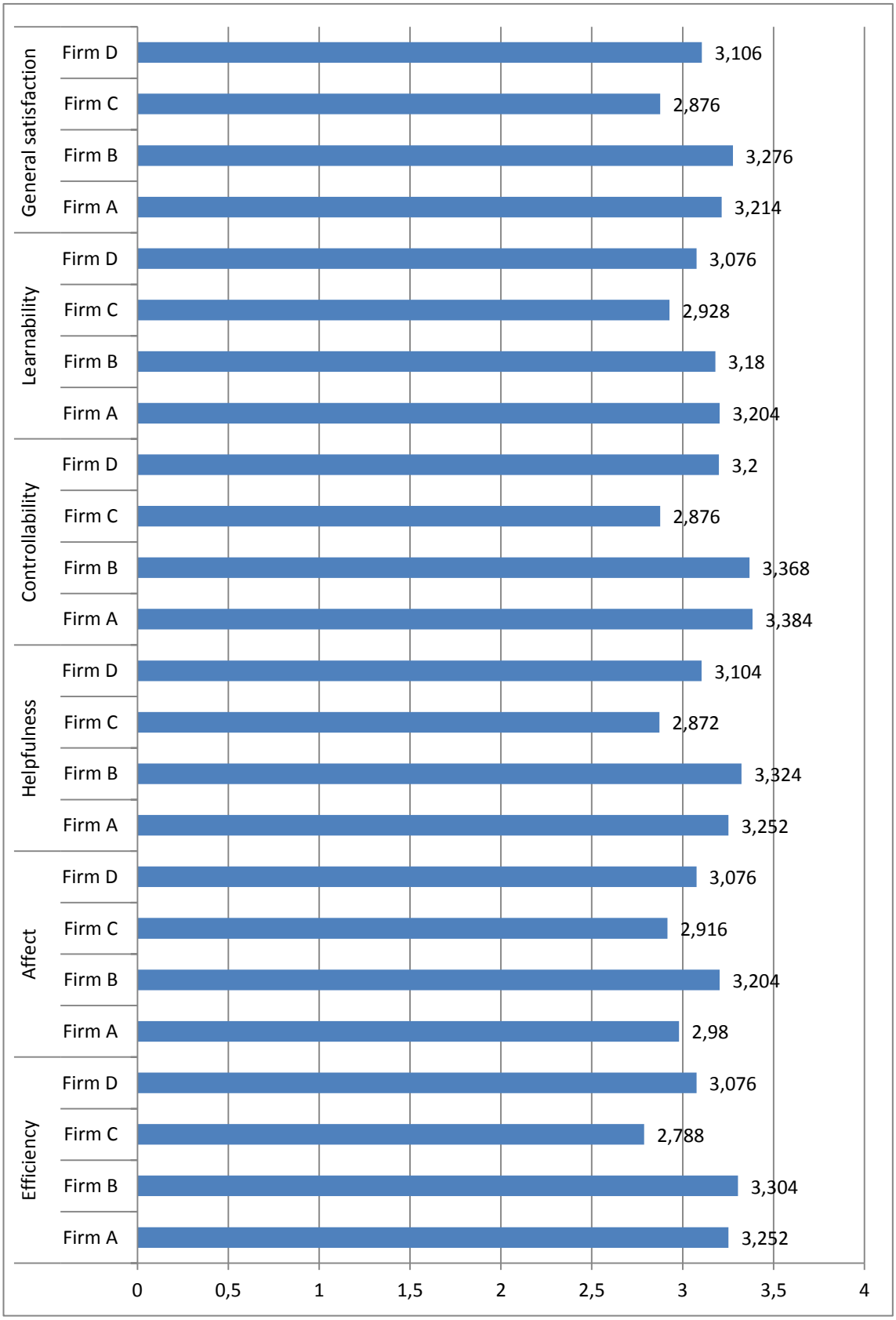


Table 4.15: The Averages of the Efficiency Level According to the Computer Software in Use

	Group	N	Medium	Standard Deviation	F	p	Difference
I sometimes wonder if I am using the right function.	Firm A	25	2.840	0.850	1.206	0.312	
	Firm B	25	3.320	0.802			
	Firm C	25	2.960	1.172			
	Firm D	25	3.080	0.862			
Working with this software is satisfying.	Firm A	25	3.120	0.971	1.589	0.197	
	Firm B	25	3.440	0.870			
	Firm C	25	2.920	1.038			
	Firm D	25	3.360	0.860			
The way that system information is presented is clear and understandable.	Firm A	25	3.480	0.823	1.458	0.231	
	Firm B	25	3.720	0.614			
	Firm C	25	3.240	1.012			
	Firm D	25	3.400	0.816			
I feel safer if I use only a few familiar functions.	Firm A	25	2.360	0.810	0.578	0.631	
	Firm B	25	2.520	0.823			
	Firm C	25	2.240	1.012			
	Firm D	25	2.240	0.831			
The software documentation is very informative.	Firm A	25	3.120	0.927	2.235	0.089	
	Firm B	25	3.640	0.569			
	Firm C	25	3.160	0.987			
	Firm D	25	3.480	0.823			
This software seems to disrupt the way I normally like to arrange my work.	Firm A	25	3.280	0.843	2.827	0.043	1 > 2
	Firm B	25	2.560	0.870			
	Firm C	25	2.880	0.971			
	Firm D	25	2.920	0.812			
Working with this software is mentally stimulating.	Firm A	25	3.320	0.852	1.103	0.352	
	Firm B	25	3.240	0.879			
	Firm C	25	2.960	0.676			
	Firm D	25	3.280	0.678			
There is never enough information on the screen when it's needed.	Firm A	25	2.680	0.988	3.154	0.028	3 > 1
	Firm B	25	3.160	1.143			
	Firm C	25	3.520	0.714			
	Firm D	25	3.160	0.987			
I feel in command of this software when I am using it.	Firm A	25	3.280	0.458	1.685	0.175	
	Firm B	25	3.480	0.586			
	Firm C	25	3.080	0.909			
	Firm D	25	3.400	0.645			
I prefer to stick to the functions that I know best.	Firm A	25	2.320	1.108	3.179	0.028	2 > 1 2 > 3
	Firm B	25	2.960	0.841			
	Firm C	25	2.200	0.866			
	Firm D	25	2.440	0.917			

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the expression “I normally

like to arrange my work," according to the firm which attendants are working for is found statistically significant (F=2.827; p=0.043<0.05)

For finding out the source of differences "post-hoc" analysis is done. According to this analysis: Firm A employee's points (3.280 ± 0.843) for the expression "I normally like to arrange my work," is higher than the employees of Firm B (2.560 ± 0,870).

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the expression "There is never enough information on the screen when it's needed ," according to the firm which attendants are working for is found statistically significant (F=3.154; p=0.028<0.05)

For finding out the source of differences "post-hoc" analysis is done. According to this analysis: The KMPG employee's point (3,520 ± 0,714) for the expression "There is never enough information on the screen when it's needed," is higher than the employees of Firm A (2.680 ± 0.988).

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the expression "I prefer to stick to the functions that I know best," according to the firm which attendants are working for is found statistically significant (F=3.179; p=0.028<0.05)

For finding out the source of differences "post-hoc" analysis is done. According to this analysis:

i. Firm B employee's points (2,960 ± 0,841) for the expression "I prefer to stick to the functions that I know best," are higher than the employees of Firm A 2,320 ± 1,108).

ii. Firm B employee's points (2,960 ± 0.841) for the expression "I prefer to stick to the functions that I know best," are higher than the employees of Firm C (2.200 ± 0.866).

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the expressions "I sometimes wonder if I am using the right function," "Working with this software is

satisfying," "The way that system information is presented is clear and understandable," "I feel safer if I use only a few familiar functions," "The software documentation is very informative," "Working with this software is mentally stimulating," "I feel in command of this software when I am using it," according to the firm which attendants are working for is not found statistically significant ($p>0.05$).

Table 4.16: The Averages of the Affect Level According to the Computer Software in Use

	Group	N	Medium	Standard Deviation	F	p	Difference
It is obvious that user needs have been fully taken into consideration.	Firm A	25	3.680	0.802	2.861	0.041	1 > 3 2 > 3
	Firm B	25	3.640	0.700			
	Firm C	25	3.040	1.172			
	Firm D	25	3.320	0.802			
There have been times in using this software when I have felt quite tense.	Firm A	25	2.760	1.091	0.541	0.655	
	Firm B	25	2.920	0.954			
	Firm C	25	2.600	0.645			
	Firm D	25	2.720	0.843			
The organization of the menus seems quite logical.	Firm A	25	3.800	0.764	1.380	0.254	
	Firm B	25	3.640	0.700			
	Firm C	25	3.360	0.700			
	Firm D	25	3.600	0.913			
The software allows the user to be economical with keystrokes.	Firm A	25	3.600	0.707	8.567	0.000	1 > 3 2 > 3 4 > 3
	Firm B	25	3.520	0.653			
	Firm C	25	2.640	0.810			
	Firm D	25	3.280	0.792			
Learning how to use new functions is difficult.	Firm A	25	3.520	1.122	0.393	0.758	
	Firm B	25	3.440	0.917			
	Firm C	25	3.320	1.069			
	Firm D	25	3.240	0.831			
There are too many steps required to get something to work.	Firm A	25	3.000	1.155	0.495	0.687	
	Firm B	25	3.040	1.136			
	Firm C	25	3.000	0.957			
	Firm D	25	2.720	0.936			
I think this software has sometimes given me a headache.	Firm A	25	2.960	0.978	1.118	0.346	
	Firm B	25	3.080	0.909			
	Firm C	25	2.600	1.041			
	Firm D	25	2.840	0.943			
Error messages are not adequate.	Firm A	25	3.480	0.918	5.009	0.003	1 > 3 2 > 3 4 > 3
	Firm B	25	3.280	0.792			
	Firm C	25	2.640	0.810			
	Firm D	25	3.280	0.737			
It is easy to make the software do exactly what you want.	Firm A	25	3.920	0.572	12.927	0.000	1 > 3 2 > 3 4 > 3
	Firm B	25	3.840	0.554			
	Firm C	25	2.720	0.980			
	Firm D	25	3.600	0.866			
I will never learn to use all that is offered in this software.	Firm A	25	3.120	1.054	1.828	0.147	
	Firm B	25	3.280	0.936			
	Firm C	25	2.840	0.898			
	Firm D	25	3.400	0.645			

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the expression "It is obvious that user needs have been fully taken into consideration," according to the firm

which attendants are working for is found statistically significant (F=2.861; p=0.041<0.05).

For finding out the source of differences “post-hoc” analysis is done. According to this analysis:

i. Firm A employee’s points (3.680 ± 0.802) for the expression, “It is obvious that user needs have been fully taken into consideration,” is higher than the employees of Firm C (3.040 ± 1.172),

ii. Firm B employee’s points (3.640 ± 0.700) for the expression “It is obvious that user needs have been fully taken into consideration,” is higher than the employees of Firm C (3.040 ± 1.172).

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the expression, “The software allows the user to be economical with keystrokes,” according to the firm which attendants are working for is found statistically significant (F=8.567; p=0.000<0.05).

For finding out the source of differences “post-hoc” analysis is done. According to this analysis:

i. Firm A employee’s points (3.600 ± 0.707) for the expression “The software allows the user to be economical with keystrokes,” is higher than the employees of Firm C (2.640 ± 0.810),

ii. Firm B employee’s points (3.520 ± 0.653) for the expression, “The software allows the user to be economical with keystrokes,” is higher than the employees of Firm C (2.640 ± 0.810),

iii. Firm D employee’s points (3.280 ± 0.792) for the expression “The software allows the user to be economical with keystrokes,” is higher than the employees of Firm C (2.640 ± 0.810).

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the expression “The error

messages are not adequate," according to the firm which attendants are working for is found statistically significant (F=5.009; p=0.003<0.05).

For finding out the source of differences "post-hoc" analysis is done. According to this analysis:

i. Firm A employee's points (3.480 ± 0.918) for the expression, "The error messages are not adequate," are higher than the employees of Firm C (2.640 ± 0.810),

ii. Firm B employee's points (3.280 ± 0.792) for the expression, "The error messages are not adequate," are higher than the employees of Firm C (2.640 ± 0.810),

iii. Firm D employee's points (3.280 ± 0.737) for the expression "The error messages are not adequate," are higher than the employees of Firm C (2.640 ± 0.810).

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the expression "It is easy to make the software do exactly what you want," according to the firm which attendants are working for is found statistically significant (F=12,927; p=0,000<0.05).

For finding out the source of differences "post-hoc" analysis is done. According to this analysis:

i. Firm A employee's points (3.920 ± 0.572) for the expression, "It is easy to make the software do exactly what you want," are higher than the employees of Firm C (2.720 ± 0.980),

ii. Firm B employee's points (3.840 ± 0.554) for the expression, "It is easy to make the software do exactly what you want," are higher than the employees of Firm C (2.720 ± 0.980),

iii. Firm D employee's points (3.600 ± 0.866) for the expression, "It is easy to make the software do exactly what you want," are higher than the employees of Firm C (2.720 ± 0.980).

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the expressions; "There have been times in using this software when I have felt quite tense," "The organization of the menus seems quite logical"; "Learning how to use new functions is difficult," "There are too many steps required to get something to work," "I think this software has sometimes given me a headache," "I will never learn to use all that is offered in this software." according to the firm which attendants are working for is not found statistically significant ($p>0.05$).

Table 4.17: The Averages of the Helpfulness Level According to the Computer Software in Use

	Group	N	Medium	Standard Deviation	F	p	Difference
This software responds too slowly to inputs.	Firm A	25	3.240	0.779	1.671	0.178	
	Firm B	25	3.120	0.881			
	Firm C	25	2.680	1.282			
	Firm D	25	2.840	0.943			
I would recommend this software to my colleagues.	Firm A	25	3.840	0.624	8.821	0.000	1 > 3 2 > 3 4 > 3
	Firm B	25	3.520	0.918			
	Firm C	25	2.600	0.957			
	Firm D	25	3.400	1.000			
The instructions and prompts are helpful.	Firm A	25	3.640	0.757	0.606	0.613	
	Firm B	25	3.400	0.866			
	Firm C	25	3.640	0.907			
	Firm D	25	3.680	0.748			
This software has at some time stopped unexpectedly.	Firm A	25	2.960	0.889	3.135	0.029	1 > 3 2 > 3
	Firm B	25	2.880	0.781			
	Firm C	25	2.200	1.155			
	Firm D	25	2.560	1.044			
Learning to operate this software initially is full of problems.	Firm A	25	3.120	1.092	1.520	0.214	
	Firm B	25	3.480	1.085			
	Firm C	25	2.840	1.028			
	Firm D	25	3.080	1.077			
I sometimes don't know what to do next with this software.	Firm A	25	2.800	1.258	1.360	0.260	
	Firm B	25	3.360	0.860			
	Firm C	25	3.080	0.909			
	Firm D	25	2.960	0.978			
I enjoy the time I spend using this software.	Firm A	25	3.160	1.068	8.536	0.000	1 > 3 2 > 3 4 > 3 2 > 4
	Firm B	25	3.600	0.645			
	Firm C	25	2.360	0.810			
	Firm D	25	3.040	0.935			
I find that the help information given by this software is not very useful.	Firm A	25	3.120	0.781	4.385	0.006	1 > 3 2 > 3
	Firm B	25	2.960	0.676			
	Firm C	25	2.320	0.945			
	Firm D	25	2.760	0.879			
If this software stops it is not easy to restart it.	Firm A	25	3.360	1.150	0.639	0.591	
	Firm B	25	3.040	0.735			
	Firm C	25	3.000	1.190			
	Firm D	25	3.160	0.898			
It takes too long to learn the software functions.	Firm A	25	3.280	1.061	1.393	0.250	
	Firm B	25	3.680	0.852			
	Firm C	25	3.160	0.987			
	Firm D	25	3.280	0.936			

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the expression “I would

recommend this software to my colleagues." according to the firm which attendants are working for is found statistically significant (F=8.821; p=0.000<0.05).

For finding out the source of differences "post-hoc" analysis is done. According to this analysis:

i. Firm A employee's points (3.840 ± 0.624) for the expression "I would recommend this software to my colleagues," are higher than the employees of Firm C (2.600 ± 0.957),

ii. Firm B employee's points (3.520 ± 0.918) for the expression "I would recommend this software to my colleagues," are higher than the employees of Firm C (2.600 ± 0.957),

iii. Firm D employee's points (3.400 ± 1.000) for the expression "I would recommend this software to my colleagues," are higher than the employees of Firm C (2.600 ± 0.957).

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the expression "This software has at some time stopped unexpectedly," according to the firm which attendants are working for is found statistically significant (F=3.135; p=0.029<0.05).

For finding out the source of differences "post-hoc" analysis is done. According to this analysis:

i. Firm A employee's points (2.960 ± 0.889) for the expression "This software has at some time stopped unexpectedly," are higher than the employees of Firm C (2,200 ± 1,155),

ii. Firm B employee's points (2.880 ± 0.781) for the expression "This software has at some time stopped unexpectedly," are higher than the employees of Firm C (2.200 ± 1.155).

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the expression "I enjoy the

time I spend using this software," according to the firm which attendants are working for is found statistically significant (F=8.536; p=0.000<0.05).

For finding out the source of differences "post-hoc" analysis is done. According to this analysis:

i. Firm A employee's points (3.160 ± 1.068) for the expression, "I enjoy the time I spend using this software," are higher than the employees of Firm C (2.360 ± 0.810),

ii. Firm B employee's points (3.600 ± 0.645) for the expression, "I enjoy the time I spend using this software," are higher than the employees of Firm C (2.360 ± 0.810),

iii. Firm D employee's points (3.040 ± 0.935) for the expression, "I enjoy the time I spend using this software," are higher than the employees of Firm C (2.360 ± 0.810),

iv. Firm B employee's points (3.600 ± 0.645) for the expression, "I enjoy the time I spend using this software," are higher than the employees of Firm D (3.040 ± 0.935).

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the expression, "I find that the help information given by this software is not very useful," according to the firm which attendants are working for is found statistically significant (F=4.385; p=0.006<0.05).

For finding out the source of differences "post-hoc" analysis is done. According to this analysis:

i. Firm A employee's points (3.120 ± 0.781) for the expression, "I find that the help information given by this software is not very useful," are higher than the employees of Firm C (2.320 ± 0.945),

ii. Firm B employee's points (2.960 ± 0.676) for the expression, "I find that the help information given by this software is not very useful," are higher than the employees of Firm C (2.320 ± 0.945).

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the expressions, "This software responds too slowly to inputs,"; "The instructions and prompts are helpful," "Learning to operate this software initially is full of problems," "I sometimes don't know what to do next with this software," "If this software stops it is not easy to restart it," "It takes too long to learn the software functions." according to the firm which attendants are working for is not found statistically significant ((p>0.05).

Table 4.18: The Averages of the Controllability Level According to the Computer Software in Use

	Group	N	Medium	Standard Deviation	F	p	Difference
I think this software is inconsistent.	Firm A	25	3.200	1.080	1.313	0.275	
	Firm B	25	3.680	0.802			
	Firm C	25	3.240	1.091			
	Firm D	25	3.240	0.970			
I would not like to use this software every day.	Firm A	25	2.720	1.100	10.798	0.000	3 > 1 1 > 2 3 > 2 4 > 2 3 > 4
	Firm B	25	2.160	0.746			
	Firm C	25	3.640	0.907			
	Firm D	25	3.000	0.957			
I can understand and act on the information provided by this software.	Firm A	25	3.560	0.768	0.830	0.481	
	Firm B	25	3.640	0.860			
	Firm C	25	3.320	0.690			
	Firm D	25	3.520	0.653			
This software is awkward when I want to do something which is not standard.	Firm A	25	2.600	1.041	1.952	0.126	
	Firm B	25	3.280	1.137			
	Firm C	25	2.880	0.971			
	Firm D	25	3.000	0.866			
There is too much to read before you can use the software.	Firm A	25	2.800	1.080	2.799	0.044	2 > 1 2 > 3 2 > 4
	Firm B	25	3.440	1.003			
	Firm C	25	2.640	1.186			
	Firm D	25	2.800	0.957			
Tasks can be performed in a straight forward manner using this software.	Firm A	25	3.520	0.872	1.724	0.167	
	Firm B	25	3.200	1.000			
	Firm C	25	3.120	0.726			
	Firm D	25	3.000	0.764			
Using this software is frustrating.	Firm A	25	3.640	0.810	9.467	0.000	1 > 3 2 > 3 4 > 3 2 > 4
	Firm B	25	3.920	0.640			
	Firm C	25	2.800	0.866			
	Firm D	25	3.400	0.764			
The software has helped me overcome any problems I have had in using it.	Firm A	25	3.560	0.821	4.789	0.004	1 > 3 2 > 3 4 > 3
	Firm B	25	3.320	0.900			
	Firm C	25	2.600	1.118			
	Firm D	25	3.200	0.866			
The speed of this software is fast enough.	Firm A	25	3.760	0.663	17.776	0.000	1 > 3 2 > 3 4 > 3 1 > 4
	Firm B	25	3.600	0.764			
	Firm C	25	1.960	1.274			
	Firm D	25	3.080	1.038			
I keep having to go back to look at the guides.	Firm A	25	3.160	1.179	1.698	0.173	
	Firm B	25	3.000	1.080			
	Firm C	25	2.520	0.963			
	Firm D	25	2.800	1.000			

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the expression “I would not

like to use this software every day," according to the firm which attendants are working for is found statistically significant (F=10.798; p=0.000<0.05).

For finding out the source of differences "post-hoc" analysis is done. According to this analysis:

i. Firm C employee's points (3,640 ± 0,907) for the expression "I would not like to use this software every day." are higher than the employees of Firm A (2,720 ± 1,100),

ii. Firm A employee's points (2,720 ± 1,100) for the expression "I would not like to use this software every day." are higher than the employees of Firm B (2,160 ± 0,746),

iii. Firm C employee's points (3.640 ± 0.907) for the expression, "I would not like to use this software every day," are higher than the employees of Firm B (2.160 ± 0.746),

iv. Firm D employee's points (3.000 ± 0.957) for the expression, "I would not like to use this software every day," are higher than the employees of Firm B (2.160 ± 0.746),

v. Firm C employee's points (3.640 ± 0.907) for the expression, "I would not like to use this software every day," are higher than the employees of Firm D (3.000 ± 0.957).

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the expression "There is too much to read before you can use the software," according to the firm which attendants are working for is found statistically significant (F=2.799; p=0.044<0.05).

For finding out the source of differences "post-hoc" analysis is done. According to this analysis:

i. Firm B employee's points (3.440 ± 1.003) for the expression, "There is too much to read before you can use the software," are higher than the employees of Firm A (2.800 ± 1.080),

ii. Firm B employee's points (3.440 ± 1.003) for the expression, "There is too much to read before you can use the software," are higher than the employees of Firm C (2.640 ± 1.186),

iii. Firm B employee's points (3.440 ± 1.003) for the expression, "There is too much to read before you can use the software," are higher than the employees of Firm D (2.800 ± 1.957).

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the expression "Using this software is frustrating," according to the firm which attendants are working for is found statistically significant ($F=9.467$; $p=0.000<0.05$).

For finding out the source of differences "post-hoc" analysis is done. According to this analysis:

i. Firm A employee's points (3.640 ± 0.810) for the expression, "Using this software is frustrating," are higher than the employees of Firm C (2.800 ± 0.866),

ii. Firm B employee's points (3.920 ± 0.640) for the expression, "Using this software is frustrating," are higher than the employees of Firm C (2.800 ± 0.866),

iii. Firm D employee's points (3.400 ± 0.764) for the expression, "Using this software is frustrating," are higher than the employees of Firm C (2.800 ± 0.866),

iv. Firm B employee's points (3.920 ± 0.640) for the expression, "Using this software is frustrating," are higher than the employees of Firm D (3.400 ± 0.764).

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the expression, "The software has helped me overcome any problems I have had in using it," according to the firm which attendants are working for is found statistically significant ($F=4.789$; $p=0.004<0.05$).

For finding out the source of differences "post-hoc" analysis is done. According to this analysis:

i. Firm A employee's points (3.560 ± 0.821) for the expression, "The software has helped me overcome any problems I have had in using it," are higher than the employees of Firm C (2.600 ± 1.118),

ii. Firm B employee's points (3.320 ± 0.900) for the expression, "The software has helped me overcome any problems I have had in using it," are higher than the employees of Firm C (2.600 ± 1.118),

iii. Firm D employee's points (3.200 ± 0.866) for the expression, "The software has helped me overcome any problems I have had in using it," are higher than the employees of Firm C (2.600 ± 1.118).

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the expression, "The speed of this software is fast enough," according to the firm which attendants are working for is found statistically significant ($F=17.776$; $p=0.000<0.05$).

For finding out the source of differences "post-hoc" analysis is done. According to this analysis:

i. Firm A employee's points (3.760 ± 0.663) for the expression, "The speed of this software is fast enough," are higher than the employees of Firm C (1.960 ± 1.274),

ii. Firm B employee's points (3.600 ± 0.764) for the expression, "The speed of this software is fast enough." are higher than the employees of Firm C (1.960 ± 1.274),

iii. Firm D employee's points (3.080 ± 1.038) for the expression, "The speed of this software is fast enough," are higher than the employees of Firm C (1.960 ± 1.274),

iv. Firm A employee's points (3.760 ± 0.663) for the expression, "The speed of this software is fast enough," are higher than the employees of Firm D employee's points (3.080 ± 1.038).

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the expressions; "I think this software is inconsistent," "I can understand and act on the information provided by this software," "This software is awkward when I want to do something which is not standard," "Tasks can be performed in a straight forward manner using this software," "I keep having to go back to look at the guides.," according to the firm which attendants are working for is not found statistically significant ($p>0.05$).

Table 4.19: The Averages of the Learnability Level According to the Computer Software in Use

	Group	N	Medium	Standard Deviation	F	p	Difference
The software hasn't always done what I was expecting.	Firm A	25	3.080	0.909	0.799	0.497	
	Firm B	25	3.240	0.879			
	Firm C	25	2.920	0.954			
	Firm D	25	3.280	0.936			
The software presents itself in a very attractive way.	Firm A	25	3.520	0.714	1.348	0.264	
	Firm B	25	3.440	0.712			
	Firm C	25	3.120	0.833			
	Firm D	25	3.240	0.879			
Either the amount or quality of the help information varies across the system.	Firm A	25	2.520	0.586	0.504	0.681	
	Firm B	25	2.600	0.500			
	Firm C	25	2.640	0.700			
	Firm D	25	2.720	0.542			
It is relatively easy to move from one part of a task to another.	Firm A	25	3.960	0.611	9.079	0.000	1 > 3 2 > 3 4 > 3
	Firm B	25	3.960	0.539			
	Firm C	25	2.960	1.020			
	Firm D	25	3.560	0.870			
It is easy to forget how to do things with this software.	Firm A	25	3.400	1.190	2.013	0.117	
	Firm B	25	3.320	1.030			
	Firm C	25	2.760	0.831			
	Firm D	25	3.240	0.970			
This software occasionally behaves in a way which can't be understood.	Firm A	25	2.800	1.041	3.748	0.014	3 > 2 3 > 4
	Firm B	25	2.480	0.823			
	Firm C	25	3.240	0.663			
	Firm D	25	2.640	0.810			
This software is really very awkward.	Firm A	25	3.400	1.041	1.233	0.302	
	Firm B	25	3.440	0.821			
	Firm C	25	3.000	0.866			
	Firm D	25	3.320	0.852			
It is easy to see at a glance what the options are at each stage.	Firm A	25	3.680	0.557	5.532	0.002	1 > 3 2 > 3 4 > 3
	Firm B	25	3.680	0.557			
	Firm C	25	3.080	0.640			
	Firm D	25	3.440	0.651			
Getting data files in and out of the system is not easy.	Firm A	25	2.440	1.044	1.342	0.265	
	Firm B	25	2.360	0.757			
	Firm C	25	2.880	1.166			
	Firm D	25	2.640	0.995			
I have to look for assistance most times when I use this software.	Firm A	25	3.240	1.052	2.796	0.044	2 > 3 2 > 4
	Firm B	25	3.280	1.137			
	Firm C	25	2.680	0.945			
	Firm D	25	2.680	0.852			

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the expression “It is

relatively easy to move from one part of a task to another," according to the firm which attendants are working for is found statistically significant (F=9.079; p=0.000<0.05).

For finding out the source of differences "post-hoc" analysis is done. According to this analysis:

i. Firm A employee's points (3.960 ± 0.611) for the expression, "It is relatively easy to move from one part of a task to another," are higher than the employees of Firm C (2.960 ± 1.020),

ii. Firm B employee's points (3.960 ± 0.539) for the expression, "It is relatively easy to move from one part of a task to another," are higher than the employees of Firm C (2.960 ± 1.020),

iii. Firm D employee's points (3.560 ± 0.870) for the expression, "It is relatively easy to move from one part of a task to another," are higher than the employees of Firm C (2.960 ± 1.020).

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the expression, "This software occasionally behaves in a way which can't be understood," according to the firm which attendants are working for is found statistically significant (F=3.748; p=0.014<0.05).

For finding out the source of differences "post-hoc" analysis is done. According to this analysis:

i. Firm C employee's points (3.240 ± 0.663) for the expression, "This software occasionally behaves in a way which can't be understood," are higher than the employees of Firm B (2.480 ± 0.823),

ii. Firm C employee's points (3.240 ± 0.663) for the expression, "This software occasionally behaves in a way which can't be understood," are higher than the employees of Firm D (2.640 ± 0.810).

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the expression, “It is easy to see at a glance what the options are at each stage,” according to the firm which attendants are working for is found statistically significant ($F=5.532$; $p=0.002<0.05$).

For finding out the source of differences “post-hoc” analysis is done. According to this analysis:

i. Firm A employee’s points (3.680 ± 0.557) for the expression, “It is easy to see at a glance what the options are at each stage,” are higher than the employees of Firm C (3.080 ± 0.640),

ii. Firm B employee’s points (3.680 ± 0.557) for the expression, “It is easy to see at a glance what the options are at each stage,” are higher than the employees of (3.080 ± 0.640),

iii. Firm D employee’s points (3.440 ± 0.651) for the expression, “It is easy to see at a glance what the options are at each stage,” are higher than the employees of Firm C (3.080 ± 0.640).

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the expression, “I have to look for assistance most times when I use this software,” according to the firm which attendants are working for is found statistically significant ($F=2.796$; $p=0.044<0.05$).

For finding out the source of differences “post-hoc” analysis is done. According to this analysis:

i. Firm B employee’s points (3.280 ± 1.137) for the expression, “I have to look for assistance most times when I use this software,” are higher than the employees of Firm C (2.680 ± 0.945),

ii. Firm B employee’s points (3.280 ± 1.137) for the expression, “I have to look for assistance most times when I use this software,” are higher than the employees of Firm D (2.680 ± 0.852).

According to the results of the one way variance analysis (ANOVA) for finding out if there is a significant difference among the average points of the expressions; “The software hasn't always done what I was expecting,” “The software presents itself in a very attractive way,” “Either the amount or quality of the help information varies across the system,” “It is easy to forget how to do things with this software,” “This software is really very awkward,” “Getting data files in and out of the system is not easy,” according to the firm which attendants are working for is not found statistically significant ($p>0.05$).

Table 4.20: The Relationship Among Satisfaction Levels

		Efficiency	Affect	Helpfulness	Controllability	Learnability
Efficiency	r	1.000	0.630	0.650	0.598	0.628
	p	0.000	0.000	0.000	0.000	0.000
	N	100	100	100	100	100
Affect	r	0.630	1.000	0.631	0.542	0.480
	p	0.000	0.000	0.000	0.000	0.000
	N	100	100	100	100	100
Helpfulness	r	0.650	0.631	1.000	0.694	0.633
	p	0.000	0.000	0.000	0.000	0.000
	N	100	100	100	100	100
Controllability	r	0.598	0.542	0.694	1.000	0.736
	p	0.000	0.000	0.000	0.000	0.000
	N	100	100	100	100	100
Learnability	r	0.628	0.480	0.633	0.736	1.000
	p	0.000	0.000	0.000	0.000	0.000
	N	100	100	100	100	100

According to the correlation analysis for finding out the relationship between;

i. Affect and efficiency: there is a positive correlation of 63 percent among the points. According to this if the affect points increase the efficiency points increase,

ii. Helpfulness and efficiency; there are 65 percent positive correlation among the points ($r=0.650$; $p=0.000<0.05$). According to this if the helpfulness points increase the efficiency points increase,

iii. Controllability and efficiency; there are 59.8 percent positive correlation among the points ($r=0.598$; $p=0.000<0.05$). According to this if the controllability points increase the efficiency points increase,

iv. Learnability and efficiency; there are 62.8 percent positive correlation among the points ($r=0.628$; $p=0.000<0.05$). According to this if the learnability points increase the efficiency points increase,

v. Helpfulness and affect; there are 63.1 percent positive correlation among the points ($r=0.631$; $p=0.000<0.05$). According to this if the helpfulness points increase the affect points increase,

vi. Controllability and affect; there are 54.2 percent positive correlation among the points ($r=0.542$; $p=0.000<0.05$). According to this if the controllability points increase the affect points increase,

vii. Learnability and affect; there are 48.0 percent positive correlation among the points ($r=0.480$; $p=0.000<0.05$). According to this if the learnability points increase the affect points increase,

viii. Controllability and affect; there are 69.4 percent positive correlation among the points ($r=0.694$; $p=0.000<0.05$). According to this if the controllability points increase the affect points increase,

ix. Learnability and helpfulness; there are 63.3 percent positive correlation among the points ($r=0.633$; $p=0.000<0.05$). According to this if the learnability points increase the affect points increase,

x. Learnability and controllability; there are 73.6 percent positive correlation among the points ($r=0.736$; $p=0.000<0.05$). According to this if the learnability points increase the controllability points increase.

Table 4.21: The Distribution of the Employees According to the "How Important for You is The Kind of Software You Have Just Been Rating?" Variable

	Groups	Frequency(n)	Percentage (%)
How important for you is the kind of software you have just been rating?	Very Important	28	28.0
	Important	68	68.0
	Not Important	3	3.0
	Not Very Important	1	1.0
	Total	100	100.0

The kind of the software which has been just rated are very important for the 28 percent of the employees, the kind of the software which has been just rated are important for the 68 percent of the employees, the kind of the software which has been just rated is not important for the 3 percent of the employees, and the kind of the software which has been just rated is not very important for the 1 percent of the employees.

Table 4.22: The Distribution of the Employees According to the "How Would You Rate Your Software Skills and Knowledge?" Variable

	Groups	Frequency(n)	Percentage (%)
How would you rate your software skills and knowledge?	I am experienced and technical	32	32.0
	I am good but not very technical	63	63.0
	I am successful most of the software.	4	4.0
	I found hard to use many of the software	1	1.0
	Total	100	100.0

The 32 percent of the employees are experienced and technical, the 63 percent of the employees are good but not very technical, the 4 percent of the employee are successful in most of the software, and 1 percent of the employees are found many of the software hard to use.

5. CONCLUSION

With the rapid improvement seen in the greatly reduced number of fraud cases and the increasing ability of organizations to create fraudulent financial statements, the importance of audit is increases. However, because of the information technologies employed by firms and the difficulty in detecting fraud, audit firms try to find new ways to execute better audits. Through these efforts, better software programs are being introduced into the audit industry.

The "Big Four" firms of the audit industry have established a virtual oligopoly. These firms jointly control the majority of audit industry revenue and employ nearly 1 million workers. In other words, these audit firms are the firms which are in charge of uncovering fraud. These four firms use different audit software.

In this study the different software that are used by Firm D, Firm B, Firm C, and Firm A are measured by using the SUMI tool and inspected for whether their software are useable or not.

According to the research findings the below results can be stated:

i. All of the five expressions that are collected in five topics; efficiency, affect, helpfulness, control, and learnability have positively correlated with each other. In other words, it means that, if one of the expressions are not satisfied or if one of these expressions are stated as not usable, this situation will affect the others negatively, the vice versa is valid also,

ii. In general al of the users think that their software responds too slowly to inputs. Software respond speed to inputs is an important lack for the sector's software,

iii. According to answers of users, getting data files in and out of the system is not easy. Auditors work with big data files nowadays. So, data export and import functions are very important to them. Software engineers who will work on audit software must consider this lack,

iv. Firm A users think that there is never enough information on the screen when it is needed,

v. Firm C users think that they do not enjoy the time they are using their audit software. They also think that their software has at some time stopped unexpectedly. Software must help users to do their works easier. But this kind of crash problems takes a lot of their working time. So, lower end user satisfaction,

vi. Firm C users think that according to the controllability expressions, their software is slower than the software of Firm A, Firm B, and Firm D. This is a serious lack of the software because, if the software is not fast enough, the end user cannot do the things that s/he should do at time, and this means work failure which is not wanted any of the organizations,

vii. Firm C's software users also think that it is not easy with their software program to do what exactly they wanted. This is also a bad situation. If the program is not able to do what the end users wanted, it could be said that the program is inadequate,

viii. In general, Firm C employees do not find their software usable when compared with the other three firms Firm D, Firm A, and Firm B.

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