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Cloud Storage Services: A Study of User Satisfaction among Public and Private Sector Employees in Klang Valley

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Abstract. In recent years, there has been a significant increase in the number of peoples utilising cloud storage. This has resulted in a significant increase in cloud storage research and development. However, research in user satisfaction is still scarce. This study aims to close this gap by identifying the level of user satisfaction in cloud storage services usage among public and private sectors employees in the Klang Valley, as well as, examining whether perceived ease of use, trust, cost consumption, experience, social influences and security have a significant relationship with user satisfaction. The study used quantitative method, in which there are 205 participants from public and private sector employees who are working around Klang Valley who have responded to the online questionnaires. Then, the data were analyzed by using SPSS 25 and PLS-SEM 3.0 to examine the relationship between variables and to test the hypotheses. The finding reveals user satisfaction using cloud storage services among public and private sector employees in Klang Valley and the significant relation between the variables. The benefits obtained from this study can be used to empowered cloud storage services in the public and private sector employees in Klang Valley. Also, it will enhance the quality of services hence advancing the quality of public and private sector of operation of works.
Keywords: Storage data, cloud storage services, user satisfaction, information management.

1 Introduction

The Internet has had a profound effect on the information technology business. In the previous decade, the word "cloud" was introduced to the market and quickly acquired widespread use, to the point that it now encompasses a significant portion of the daily operation in a public and private sectors. Cloud computing is a web-based technology. Internet-only shared services provided to users. Service providers may utilise cloud storage to swap computer infrastructure. It aids consumers in using storage as a service. Data would be available on demand, removing the need for consumers to purchase their own data storage infrastructure. Its global size and endurance provide access to data from anywhere. As such, Dropbox, Google Drive, and OneDrive are examples of this kind of service.

Cloud computing has grown in popularity to the point that every major technology company now offers a cloud service. By storing data on the cloud, individuals may improve three areas: total cost of ownership, time required to transfer information, and information management. With cloud storage, users are relieved of the burden of choosing and procuring adequate or high-capacity hardware solely for storage or as a "someday" scenario. Depending on demand and needs, users may rapidly and precisely alter performance and storage characteristics by adding, updating, or eliminating the following capacities. Consumers only need to pay for the savings they actually use. Whereas data that is infrequently utilised will be automatically relocated to lower-cost locations depending on acoustical limits, boosting economic scalability.

Numerous studies have been done on the effectiveness of cloud storage utilization (Al-Rahmi et al., 2015; Abolfazli et al., 2015; Amron et al., 2021; Bernama, 2021; Hamid & Yusof, 2015; Perdana, n.d.). In addition, recent study on the acceptance of public sector employees in Malaysia toward cloud-based applications identified five constructs under the (i) technological factor (performance expectancy, effort expectancy, facilitating conditions, trust, and mobility), and four constructs under (ii) human factor (IT knowledge, top management support, social influence, and awareness), accelerate the acceptance of cloud computing by individual in the public sector (Amron et al., 2021). However, the important selection criteria for the cloud-based storage application will the initial cost of the software (Mohd Fateh & Mohamed, 2016). Users not aware of these risks but still used cloud data storage solutions. Moreover, the majority of them also unconcerned with these security and privacy risks but did not store confidential of sensitive data with their cloud data storage provider (Gorman, 2015). The cloud storage technology is now at its beginning stage and those deeper studies and researchers on the mature technologies, which are widely applied, in the new environment will make a great contribution to the development and perfection of the cloud storage (Cai, Wang, Long & Zhou, 2013).

Therefore, in this study we aim to close this gap by identify the level of user satisfaction in cloud storage services usage among public and private sectors employees in the Klang Valley. Because of the global spread of the COVID-19 virus, most public and private sector employees will utilise CSS services as an intermediate to complete their tasks. So, we can figure out the user satisfaction using cloud storage services as a result of the way things are. Beside, we also want to examine whether

perceived ease of use, trust, cost consumption, experience, social influences and security have a significant relationship with user satisfaction. This is due to the fact that the aforementioned characteristics are used as indicators to assess the degree of customer satisfaction with these cloud storage services. Thus, the objectives of this study are:

(i) *To identify the level of user satisfaction in cloud storage services usage among public and private sectors employees in the Klang Valley.*

(ii) *To examine whether perceived ease of use, trust, cost consumption, experience, social influences have significant relationship with user satisfaction.*

In the remainder of this section, we present the literature review of public and private employees in Klang Valley satisfaction using this cloud storage services that drives the research questions of this study. Section 3 describes the methodology, and instruments employed and data analysis techniques used in this study. Section 4 provides results of data analysis to address the research questions. Finally, Section 5 discusses the main finding and conclusions of this work.

2 Literature Review

2.1 Advantages of Cloud Storage Services

Using cloud storage, data may be accessed from any device, such as personal computers, workstations, tablets, and smartphones, providing for more flexibility and visibility of the information. (Quick & Choo, 2013). To get access to their files and expose or conceal their private information, the user must first create a login and secret phrase (Google Drive Support site, 2015). By using the cloud, customers may have a local copy of the distant server's data synchronised with their PC's nearby envelope (Drago et al., 2012). There must be a notification to the cloud storage provider of any changes to the data. On many mechanical assemblies, the same organiser may be seen by the client regardless of which device they are using; this means that they are not tied to one device (Selim, 2013). A new version of the cloud service provider is downloaded every time a built-in device, whether directly connected to the network or via a PC, connects to the network. Thus, iCloud may be used to store photos and contact information on an iPhone (Apple, 2015). If you have an Android phone from Samsung or HTC, you can use Dropbox. Users may not know that they are storing their documents in a cloud storage service. Attempting to use this service through their phone or computer is a great idea.

2.2 Popular Cloud Storage Provider

Table 1: Advantages, limation and significant features of 4 popular Cloud Storage Brand

Cloud Name	Advantages	Limitations	Significant Features
Dropbox	• Efficient cross-platform capabilities • Simple and user-friendly	File display is limited to the user	Integration with social media
Google Drive	• Easy installation and use • Easy access to documents	Automatic upload from mobile to the cloud is not available	Appeals to Google enthusiasts, or anyone who finds office tools integrated with their cloud storage useful
OneDrive	• Works seamlessly with Windows OS devices • Integrated with useful apps, such as MS Photos and MS Web Apps	Reduced functionality if not running Windows operating system and storage limit of 20,000 files	Windows PC, tablet, and mobile phone devices
Box	• Efficient for business customers due to its many tools for collaboration and its file privacy controls	Website is difficult to navigate due to its many features	Secure sharing of projects within large companies

A straightforward comparison of the many kinds of cloud storage providers presented in Table 1. As shown in the chart, each cloud storage service has advantages and disadvantages in terms of operating system compatibility, file size, performance, and capabilities.

To utilise Google Drive on Linux, users must either update or import their data from the internet. File uploads are limited to 1 TB of data per device. Only when they've been converted to Google Docs format can users view Microsoft Office files. Users of Google Drive, like Dropbox users, have the option of allowing others to see their photos, documents, or archives by submitting a link to their Google Drive account.

There is an app for smartphones as well as a desktop version that works with a variety of operating systems. One Drive has a wide range of features built in. Data commenting, editing documents while travelling and accessing files from a computer are just a few examples of these features.

Every registered user of Box receives a generous quantity of free storage. Box charges a larger price, however, compared to its rivals. The maximum file upload size for the personal pay plan is 5GB by default. The Box is a popular solution for organisations because of its security and authenticity.

2.3 Previous Research on Cloud Storage User Satisfaction

Customers may help cloud service providers improve and expand their offerings by providing feedback (Wornchanok Chaiyasoonthorn, Kulapa Najantong, and Singha Chaveesuk, 2018). Cloud computing systems have reached a stage where they may surpass the development of conventional storage solutions. Cloud storage services that are well-received by customers show that the service provided by the provider is effective.

Table 2: Previous Study

Research Title	Aim of Study	Research Method
Satisfaction of Working People in Thailand in Their Usage of Cloud Storage Systems	To investigate Satisfaction of working people in Thailand in their usage of cloud storage systems.	Quantitative Method
A security framework to protect data in cloud storage.	Study development of a Cloud Storage Security Framework (CSSF) to support an integrative approach to understanding and evaluating security in cloud storage.	Qualitative and Quantitative Methods
Cloud Computing Services and Applications to Improve Productivity of University Researchers	▪ Research requirements for cloud computing services and applications are recognised and addressed. ▪ Interviews with postgraduate students revealed the things that make university researchers less productive.	Qualitative Method
Testing Cloud Computing for Customer Satisfaction and Loyalty	▪ To define what experts are recommending making SaaS applications more successful as measured by user satisfaction. ▪ To test if such user satisfaction translates into the more important outcome of customer loyalty	Quantitative Method
The Major Security Challenges to Cloud Computing	To bridge the research gap between the cloud security measures and the existing security threats	Qualitative and Quantitative Methods
Acceptance of cloud computing in the Malaysian public sector: A proposed model	To measure the acceptance of government cloud project because there has been much investment in the project.	Qualitative methods
Cloud Adoption in Malaysia: Trends, Opportunities, and Challenges	▪ Present the current trend of adopting cloud computing technology in Malaysia. ▪ Present future cloud adoption opportunities, and the open challenges that ground future research. ▪ Discusses and refers to beneficial documents about cloud adoption efforts in Malaysia as a guide to other governments.	Qualitative methods
The Cost Effect, Customer Support, And Privacy Issue on The Usage of Cloud Storage	To find out the problems commonly encountered by users in using a cloud storage system, which cost effects, customer support, and privacy issues.	Quantitative Methods

Among Indonesian Students In Universiti Utara Malaysia		
Study on Cloud Storage and its Issues in Cloud Computing	This article specifies the various approaches in storing data in cloud.	Qualitative Methods
A Survey on Cloud Storage	To gives a quick introduction to cloud storage.	Qualitative Methods
Evolution of Cloud Storage as Cloud Computing Infrastructure Service	To end, this study identifies a few difficulties to be solved by cloud storage providers.	Qualitative Methods
The Growing Adoption of Cloud Storage – 2019 Survey Findings	Survey on the state of data backup, recovery, DRaaS, and the increasing use of the cloud in data protection	Quantitative Methods
Ensuring Data Storage Security In Cloud Computing With Advanced Encryption Standard (Aes) And Authentication Scheme (As)	To address data security threats while in cloud storage, strong authentication scheme and data encryption scheme was introduced in this paper using Advanced Encryption Standard (AES) algorithm for the encryption of users' data contents before putting into storage and Authentication scheme for valid user verification and protection of unauthorized access to all units of system functionalities.	Quantitative Methods
Exploring users' experiences of using personal cloud storage services: a phenomenological study	To address this gap, this paper seeks a clear understanding of how participants have profoundly experienced and perceived PCSSs to obtain worthwhile insights towards the essence of PCSSs' adoption as a multifaceted phenomenon.	Qualitative Methods

2.4 Theoretical Framework & Operational Definition

Users' ability to use is impacted by their behavioural expectations, and that the use frame of mind and usability work together to establish clients' behavioural goals. People's thoughts may be divided into two categories: perceived comfort and regarded usefulness. It has been shown that emphasising the importance of things in plain sight may have a psychologically positive effect on how people think. Below is the theoretical framework of this study.

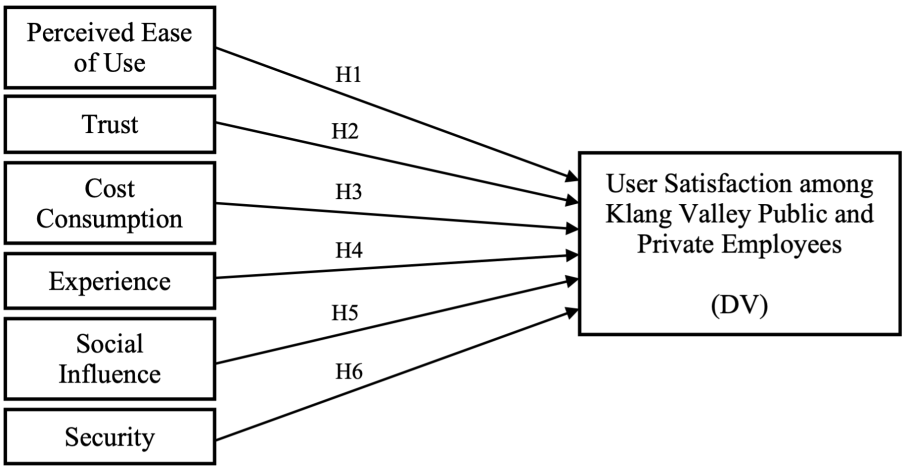

Figure 2: Theoretical Framework of the Study

2.4.1 User Satisfaction

An important indicator for measuring a company's relationship with its customers is customer satisfaction (CSAT) (Margaret Rouse, 2021). User satisfaction with cloud storage was defined as service satisfaction in this research. By using cloud storage, it is possible to preserve a lot of data without spending a lot of money. There was a strong correlation between cloud computing performance and user loyalty that was found by Guimaraes and Paranjape (2014) as well as the user satisfaction mediating function given in this study between cloud computing performance attributes and user loyalty.

2.4.2 Perceived Ease of Use

H1: Perceive ease of use has a positive influence on user satisfaction of Cloud Storage services.

Data could be stored on the cloud. Easy access to data: It made work more accessible; it could back up and avoid data loss, making it more secure. People could check data at any time from any place. If the new stage has a well-known method and a simple and clear interface, users might think it's a good idea to use it.

2.4.3 Trust

H2: User satisfaction with cloud storage services is positively influenced by trust.

On-demand and "pay-as-you-go" frameworks may be built on low-trust connections, leak data publicly, and make deletion difficult to discover. Trust between the user and cloud vendors may be nontransitive at all chain levels, and certain subcontractors (XaaS providers) cannot trust the user. In order to increase resources quickly, new suppliers may be introduced into the supply chain whose identity, policies, dependability, and trustworthiness are unknown.

2.4.4 Cost Consumption

H3: Cost consumption give a negative influence on user satisfaction with cloud storage services.

Due to the significant expense of transferring, clients are discouraged from doing so. Even if today's technology were to be implemented, it would need a substantial amount of money. As a result, clients must have trust in the products they are purchasing. Many people have concerns regarding the security of cloud storage, such as whether their personal information would be exposed. It's a client's problem, and they're all on my mind.

2.4.5 Experiences

H4: Experience positively influences the user satisfaction of Cloud Storage Services

Users' cloud service experiences and their influence were the dependent variables. The following were included in the study's target population: Cloud storage has been used by certain users. Cloud storage has lately been adopted by users. Papers or personal data may be stored on the cloud. Users are responsible for passing on their knowledge of cloud data management to others.

2.4.6 Social Influences

H5: User satisfaction with cloud storage services is positively influenced by social influences.

How much of a person's social influence is affected by the cloud storage service that they use is what this study is looking at. According to this report, the percentages of cloud storage users who have read a technical review that clearly shows that the cloud storage meets the needs and expectations of its users in terms of how easy it is to use and how efficient it is were calculated.

2.4.7 Security

H6: User satisfaction is positively influenced by the security of cloud storage services.

Cloud infrastructure cause barriers to network, host, and device protection, although these impediments are not caused directly by the cloud infrastructure. Who is accountable for what in the sphere of defence is the most serious issue. Malicious use of cloud computing is the most serious security issue, according to the Cloud Security Alliance (Business Software Alliance, 2018).

3 Methodology

The aim of this research is to give quantitative explanations for a multiple sample population system. The survey's research technique will be utilised for this evaluation because of its importance in answering questions and attaining objectives. It aims to provide evidence gathered from the study population, often known as samples.

Form, protocols, and procedures are utilised to collect data in research architecture (Dr. Willman, 2006). The purpose of the survey, unit of examination, technique of

inquiry, sampling and calculation, scope of the study, data, and data analysis are all components of research architecture. Techniques and procedures were chosen to ensure that the different types of analysis were combined in a logical manner.

3.1 Sample

A random sample of 205 respondents will be chosen at random from the public and private sectors, and each will be requested to complete a questionnaire. The questionnaire will be completed by the user using a Google form. We can then assess whether they are using cloud storage services.

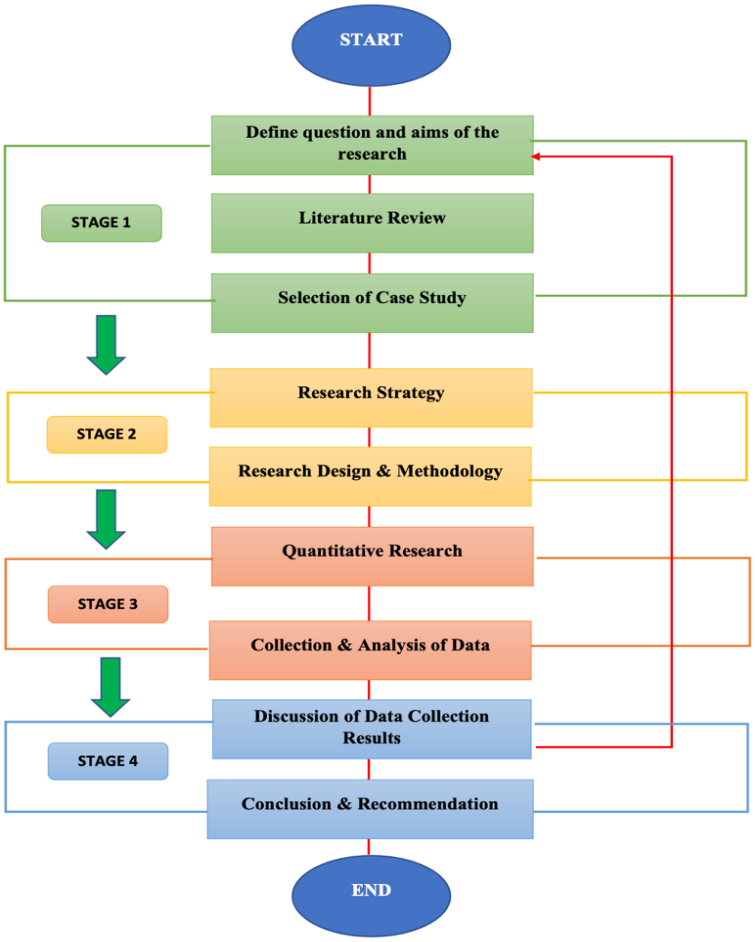

Figure 3: Flowchart of the Research Process

3.2 Data Collection

The data for this study were compiled quantitatively. The researcher will contact customers personally and will disseminate the study survey using Google Forms. The data collection period is around two months. The survey will be made public upon approval of the plan. Data collecting procedures are shown in the figure above (Figure 3).

4 Results

Ten (10) questions are used to extract demographic information from respondents. This section includes descriptive statistics for each demographic variable. The last question concerns continuity if the responder uses CSS, as evidenced by the CSS provider utilised.

Table 3: Demographic Information

Variable		Frequency (N=205)	Percent (%)
Gender	Male	76	37.1
	Female	129	62.9
Age	20 – 30	62	30.2
	31 – 40	98	47.8
	41 – 50	34	16.6
	>51	11	5.4
Race	Malay	193	94.1
	Chinese	4	2.0
	Indian	2	1.0
	Others	6	2.9
Highest Education Level	SPM, STPM	25	12.2
	Certificates	4	2.0
	Diploma	33	16.1
	Degree	106	51.7
	Master	33	16.1
	PhD	4	2.0
Sector	Government	131	63.9
	Private	74	36.1
Position	Non-Executive	107	52.2
	Executive	87	42.4
	Top Management	11	5.4
Computer Literacy	Basic Skill	38	18.5
	Intermediate Skill	128	62.4
	Expert	39	19
I have a cloud storage services	Yes	152	74.1
	No	53	25.9

4.1 Demographic Information

Researchers used a Google form and numerous categories to distribute an online ticket questionnaire to responders remotely. All respondents must complete the questionnaire honestly to ascertain user satisfaction among Klang Valley public and private sector personnel. There will be demographic questions on the user's gender, age, race, educational level, and work sector. The table below summarises the demographic characteristics for this investigation.

4.2 The Outcome of the Analysis.

Internal consistency reliability, indicator reliability, convergent validity, and discriminant validity are used to assess the validity and reliability of the measurement model for this research. This study looks at how cloud storage services influence user satisfaction, perceived ease of use, trust, cost consumption, experience, social influence, and security especially during this endemic of COVID-19.

Only 152 people (out of a total of 205 people) claimed they use cloud storage and are aware of cloud storage services. Because the other 53 respondents did not have a cloud storage account and there is no data on the independent variable for those 53 respondents, only 152 will be analysed for the descriptive analysis using Smart PLS. Table 4 contain a detailed profile of this variables.

Table 4: Indicator for each section and statement.

Indicator	Statement	N	Mean		Std Deviation	Varience
		Stats	Stats	Std Error	Statistic	Statistic
PEU1	I feel that cloud storage services are easy to use.	205	3.29	0.142	2.039	4.157
PEU2	I feel that cloud storage services are easy to use even from different service providers.	205	3.09	0.137	1.958	3.835
PEU3	I can use this cloud storage service wherever and whenever I feel needed.	205	3.24	0.142	2.027	4.107
PEU4	I can manage all data in my cloud storage services from any device conveniently without any other restrictions.	205	3.11	0.137	1.966	3.865
PEU5	I do storage, modifica-	205	3.18	0.139	1.983	3.933

	tion and deletion of my files on cloud storage services with ease.					
PEU6	I always use cloud storage services for my routine tasks.	205	3.12	0.141	2.014	4.055
	Average Mean		3.17			
TR1	I believe that cloud storage services are trustworthy.	205	2.88	0.131	1.87	3.496
TR2	I believe that cloud storage services are stable.	205	2.94	0.132	1.893	3.585
TR3	I believe that cloud storage services providers will protect users' rights.	205	2.83	0.127	1.822	3.319
TR4	feel comfortable using cloud storage services.	205	3.03	0.135	1.93	3.725
TR5	The cloud storage service provider I use now gives me enough space for storage.	205	2.9	0.134	1.925	3.706
TR6	I feel confident to use cloud storage services from well-known providers.	205	3.13	0.138	1.975	3.899
	Average Mean		2.95			
CC1	I have to pay for the cloud storage service I use now.	205	2.05	0.123	1.759	3.096
CC2	I am happy with the payment and storage space offered by the cloud storage service provider I currently subscribed to.	205	2.38	0.126	1.799	3.237
CC3	Regardless of the amount of storage space available, I only choose cloud storage service providers that offer cheaper rates.	205	2.73	0.136	1.943	3.776
CC4	If I find a better deal, I'll switch to another	205	3	0.139	1.996	3.985

	cloud storage service provider.					
CC5	If I have to pay using cloud storage service, I am more willing to use a hard drive, compact disc or USB flash drive.	205	2.61	0.136	1.944	3.778
CC6	I will only use the free space and will not upgrade my cloud storage (if i need to pay more).	205	2.91	0.14	1.999	3.996
	Average Mean		2.61			
EXP1	My most satisfying experience was when my primary laptop stopped responding and I could restart work by opening my cloud storage account on another computer.	205	3.27	0.143	2.052	4.209
EXP2	I have no problem understanding the cloud storage service I am using right now.	205	3.15	0.139	1.993	3.972
EXP3	I can easily access data from different devices with different operating systems just by using a cloud storage service.	205	3.22	0.14	2.009	4.038
EXP4	I have been using cloud storage services for over a year.	205	3.32	0.145	2.073	4.298
EXP5	I love the convenience of the cloud storage service because it can be accessed anytime, anywhere using any devices.	205	3.28	0.142	2.031	4.123
EXP6	My favourite feature of cloud storage services is that my data is always accessible.	205	3.25	0.143	2.049	4.2
	Average Mean		3.25			

SI1	I was influenced (co-workers, parents, siblings, friends etc) to use cloud storage services.	205	2.53	0.13	1.859	3.456
SI2	My close friends and I use cloud storage services from the same provider.	205	2.9	0.135	1.934	3.739
SI3	Important people around me (bosses, co -workers, parents, good friends, etc.) believe that I should utilize cloud storage services for my convenience.	205	2.96	0.135	1.932	3.734
SI4	Boss, co -workers, parents, good friends, and siblings always help and guide me in using cloud storage services.	205	2.8	0.135	1.929	3.72
SI5	The management also gave me a lot of guidance (eg : training, workshop etc) in using cloud storage services.	205	2.59	0.131	1.87	3.498
SI6	In general, my organization's community is very supportive of utilizing cloud storage services.	205	2.99	0.139	1.995	3.98
SI7	In my organization, cloud storage services have become the primary medium for information management such as google sheet to do the inventory record by sharing it only among related staff.	205	3.02	0.14	2.011	4.044
	Average Mean		2.88			
SEC1	I believe that any data	205	2.84	0.13	1.867	3.485

	stored in the cloud storage service is secure and will not be disclosed.					
SEC2	I believe cloud storage service providers have very good security protections.	205	2.9	0.132	1.884	3.549
SEC3	Cloud storage service providers prioritise data privacy and security.	205	2.96	0.133	1.898	3.601
SEC4	Cloud storage services enable me to save data without fear of losing it in the case of a natural disaster or an unwelcome mishap.	205	3.04	0.136	1.952	3.812
SEC5	Protected: Data in cloud storage cannot be changed by anyone else without permission.	205	3.01	0.135	1.934	3.74
SEC6	Users of cloud storage services can retrace data if in doubt if there are changes to the data made in the 'history' column.	205	3.04	0.136	1.942	3.773
	Average Mean		2.97			
US1	I am happy with the cloud storage that I am using right now	205	3.21	0.138	1.983	3.931
US2	I make use of all the features offered in the cloud storage service I use now.	205	2.95	0.133	1.9	3.61
US3	I often use cloud storage services.	205	3.08	0.138	1.971	3.886
US4	My frequency of using cloud storage services.	205	1.4	0.091	1.301	1.692
US5	Which service would you prefer if you had a choice for data storage?	205	1.93	0.118	1.685	2.838
	Average Mean		2.10			

Table 5 below summarises the average mean for each variable and the level at which users agree on the variable. Meanwhile, Table 6 shows the latern variables and indicators for each variables used.

Table 5: Summary of descriptive statistic result.

Indicator	Average Mean (Median = 3)	Conclusion
Perceived Ease of Use	3.17	Because the average mean is more than 3, respondents indicated that they felt comfortable utilising cloud storage services.
Trust	2.95	Because the average mean is more than 3, respondents indicated that they felt comfortable utilising cloud storage services.
Cost Consumption	2.61	Because of the average mean value is less than three, respondents indicated that they typically disagree with the item defining the factor in the investigation.
Experience	3.25	Because the average mean value exceeds three, respondents indicated that they generally agree with the item describing the researched factor.
Social Influence	2.88	Because of the average mean value is less than three, respondents often disagree with the item describing the element under examination.
Security	2.97	Respondents often disagree with the item identifying the aspect under investigation if the average mean value is less than three.
User Satisfaction	2.10	If the average mean value is less than three, respondents often disagree with the item describing the element under consideration.

Table 6: Latent variable and indicators

Section	Latent variable (Blue circle)	Indicator (Yellow circle)
Perceived Ease of Use	Independent variable (IV)	PEU1, PEU2, PEU3, PEU4, PEU5, PEU6
Trust	Independent variable (IV)	TR1, TR2, TR3, TR4, TR5, TR6
Cost Consumption	Independent variable (IV)	CC1, CC2, CC3, CC4, CC5, CC6
Experience	Independent variable (IV)	EXP1, EXP2, EXP3, EXP4, EXP5, EXP6
Social Influence	Independent variable (IV)	SI1, SI2, SI3, SI4, SI5, SI6, SI7

Security	Independent variable (IV)	SEC1, SEC2, SEC3, SEC4, SEC5, SEC6
User Satisfaction	Dependent variable (DV)	US1, US2, US3, US4, US5

The Path Model for latent variables from Smartpls is shown in Figure 4. The yellow circle represents the latent variables for the independent variable (IV), while the blue circle represents the latent variables for the dependent variable (DV).

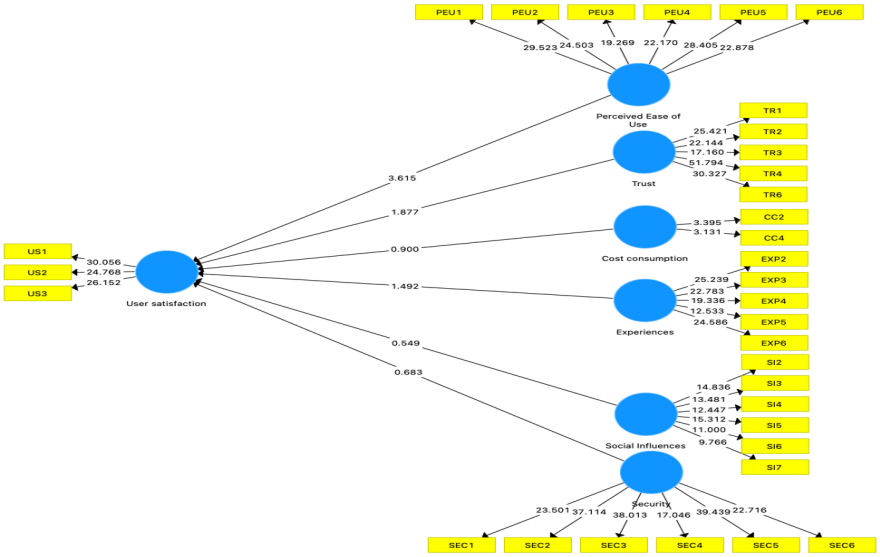

Figure 4: Latent variable's path model from Smart PLS

Table 7 demonstrates that after the observed variables in the section of independent variables and dependent variables for latent variables and indicators were assigned an acceptance range, the AVE results conformed to the range in a favourable manner.

Table 7:Analytical results

Variable	Item	m Loading	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Cost consumption	CC2	0.795	0.34	0.341	0.752	0.602
	CC4	0.756				
Experiences	EXP2	0.814	0.872	0.881	0.907	0.661
	EXP3	0.831				
	EXP4	0.807				
	EXP5	0.759				
	EXP6	0.85				

Perceived Ease of Used	PEU1	0.866	0.91	0.917	0.93	0.689
	PEU2	0.821				
	PEU3	0.789				
	PEU4	0.835				
	PEU5	0.853				
	PEU6	0.814				
Security	SEC1	0.807	0.927	0.936	0.942	0.731
	SEC2	0.888				
	SEC3	0.881				
	SEC4	0.835				
	SEC5	0.892				
	SEC6	0.825				
Social Influences	SI2	0.812	0.897	0.92	0.92	0.657
	SI3	0.835				
	SI4	0.79				
	SI5	0.804				
	SI6	0.855				
	SI7	0.763				
Trust	TR1	0.849	0.896	0.91	0.923	0.706
	TR2	0.84				
	TR3	0.782				
	TR4	0.889				
	TR6	0.839				
User Satisfaction	US1	0.833	0.779	0.784	0.871	0.692
	US2	0.841				
	US3	0.821				

4.3 The Outcome of the analysis.

When the composite reliability (CR) of each construct surpasses the threshold value of 0.7, a measurement model has sufficient internal consistency dependability. Internal consistency reliability is insufficient at this point. According to Table 8, the CR for each construct ranged from 0.752 to 0.942 in this study.

Table 8:Composite reliability table

Variable	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Cost consumption	0.34	0.341	**0.752**	0.602
Experiences	0.872	0.881	**0.907**	0.661
Perceived Ease of Used	0.91	0.917	**0.93**	0.689
Security	0.927	0.936	**0.942**	0.731

Social Influences	0.897	0.92	**0.92**	0.657
Trust	0.896	0.91	**0.923**	0.706
User Satisfaction	0.779	0.784	**0.871**	0.692

Table 9 shows the AVE square roots and the intercorrelation value among constructs. Meanwhile The results of cross-loading between constructs and indicators are shown in Table 10.

Table 9: Average variable extracted (AVE)

Variable	Average Variance Extracted (AVE)
Cost consumption	0.602
Experiences	0.661
Perceived Ease of Used	0.689
Security	0.731
Social Influences	0.657
Trust	0.706
User Satisfaction	0.692

Table 10: Inter-correlation metric

	Cost Consumption	Experiences	Perceived Ease Of Use	Security	Social Influences	Trust	User Satisfaction
Cost Consumption	0.776						
Experiences	0.389	0.813					
Perceived Ease Of Use	0.249	0.748	0.83				
Security	0.344	0.57	0.503	0.855			
Social Influences	0.317	0.494	0.391	0.473	0.81		
Trust	0.286	0.691	0.715	0.755	0.452	0.84	
User Satisfaction	0.199	0.647	0.722	0.511	0.326	0.671	0.832

4.3 Structural Model

R-Squared is a statistical measure used in regression models to assess the variance-ratio that an independent variable can explain for the dependent variable. A greater R2 value indicates a more accurate model fit in general. For this experiment, the boot-strapping approach was employed to generate 500 samples from 100 instances.

Table 11: R-Squared (R2)

	R Square	R Square Adjusted
User satisfaction	0.582	0.565

According to Table 11, perceived ease of use, trust, cost consumption, experience, social influence, and security can explain 58.2% of the variation in user satisfaction, indicating that the models are compatible.

The path coefficients observed t-statistics, and significance level for each path coefficient are listed in Table 12. Acceptance or rejection of the suggested hypothesis is evaluated using the route assessment data.

Table 12: Path Coefficient

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|) (> 1.96)	P Values (<0.05)	Decision
Cost consumption -> User satisfaction	-0.047	-0.029	0.051	**0.926**	0.178	Not supported
Experiences -> User satisfaction	0.174	0.171	0.109	**1.588**	0.056	Not supported
Perceived Ease of Use -> User satisfaction	0.419	0.424	0.108	**3.884**	0.000	Supported
Security -> User satisfaction	0.053	0.049	0.074	**0.722**	0.235	Not supported
Social Influences -> User satisfaction	-0.045	-0.042	0.079	**0.566**	0.286	Not supported
Trust -> User satisfaction	0.245	0.248	0.123	**1.986**	0.024	Supported

5 Discussions and Conclusions

The purpose of this study is to determine the degree of user satisfaction with cloud storage services among public and private sector employees in the Klang Valley region. The findings indicate that perceived ease of use and trust influence user satisfaction. As a result, H1 and H2 are acceptable. The survey discovered that users find cloud storage services very simple and convenient to use. Additionally, users retain a lingering trust in this service. These findings contribute significantly to the academic literature because most of the study such as (Adams et al., 1992; Amron et al., 2021; Bachleda & Ouaaziz, 2017; Hanifah A.H & Mokhtar M.H, n.d.; Sallehudin et al., 2018).

The second objective of this study is to analyse the influence on user satisfaction of perceived ease of use, trust, cost consumption, experience, social influence and security. The study's findings indicate that all independent factors have an influence on customer satisfaction, which stands at 58.2% as shown by the reading of R2.

The use of cloud storage services will benefit public and private sector organisations in the Klang Valley region. The government has already spent billions on building internet services for its citizens, but research must be enhanced so that the users may profit from it. As a result, future studies should consider conducting more research on cloud storage user understanding and acceptance to contribute more theoretical perspectives and empirical knowledge.

Public and private-sector employees, as well as cloud storage providers, should put more effort into understanding and popularising the use of cloud storage technologies. Users' pleasure with cloud storage services was hindered by a variety of factors, including cost consumption, social influence, experience, and security. It might be a good idea for local governments to offer an independent cloud storage service with a strong internet infrastructure and a lot of internet service available to all of their people.

References

Abolfazli, Saeid & Sanaei, Zohreh & Tabassi, Ali & Rosen, Steven & Gani, Abdullah & Khan, Samee. (2015). Cloud Adoption in Malaysia: Trends, Opportunities, and Challenges. IEEE Cloud Computing. 2. 10.1109/MCC.2015.1.

Apple. (2015). How to back up your iPhone, iPad, and iPod touch. (2019, December 6). Retrieved from https://support.apple.com/en-ie/HT203977

Arpaci, I. (2016), "Understanding and predicting students' intention to use mobile cloud storage services", Computers in Human Behavior, Vol. 58150-157.

Arpaci, I., Kilicer, K. & Bardakci, S. (2015), Effects of security and privacy concerns on educational use of cloud services, Computers in Human Behavior, Vol. 45 No. C, pp. 93-98.

Balco, P., Law, J., & Drahošová, M. (2017). Cloud market analysis from customer perspective. Procedia Computer Science, 109, 1022-1027. https://doi.org/10.1016/j.procs.2017.05.375

Bharadwaj, S.S., & Lal, P. (2012). Exploring the impact of cloud computing adoption on organizational flexibility: A client perspective. Cloud Computing Technologies, Applications and Management (ICCCTAM), 2012 International Conference. IEEE, 121–131

Bhattacherjee, A. (2001), Understanding information systems continuance: an expectation confirmation model, Society for Information Management and The Management Information Systems Research Center.

Buttell, A. E. (2010). Reasons to Switch to Cloud Computing, Journal of Financial Planning, 6-7.

Chang, Y., Chang, P., Xu, Q., Ho, K., & Halim, W. L. (2016). An empirical investigation of switching intention to private cloud computing in large enterprises. 2016 22nd Asia-Pacific Conference on Communications (APCC). doi:10.1109/apcc.2016.7581451

Chen, Y. & Potter, R. (2007), The Role of Habit in Post-Adoption Switching of Personal Information Technologies: A Push, Pull and Mooring Model.

Chuang, Y. (2011). Pull-and-suck effects in Taiwan mobile phone subscribers switching intentions. Telecommunications Policy, 35(2), 128-140. doi:10.1016/j.telpol.2010.12.003

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. MIS Quarterly, 13(3), 319. doi:10.2307/249008

Drago, I., Mellia, M., M Munafo, M., Sperotto, A., Sadre, R., and Pras, A. (2012). Inside Dropbox. The 2012 ACM Conference, 481.

Elete, J. (2018). Brand Switching Behaviour Among Millennial Consumers Of Fast Food Brands In Dublin, Ireland (Master's thesis).

Eric Ku. (n.d.). Is Cloud Computing Right for You. https://www.mcmc.gov.my/skmmgovmy. https://www.mcmc.gov.my/skmmgovmy/files/attachments/Topic_4_Cloud_Computing_Right_for_You_Eric_Ku.pdf

Fouka G. & Mantzorou M. (2011). "What are the major ethical issues in conducting research? Is there a conflict between the research ethics and the nature of nursing?" Health Science Journal, 5 (1), 3-14.

Google Drive Support. (2015). How to share - Drive Help Share files from Google Drive. (n.d.).Retrieved from https://support.google.com/drive/answer/2494822?hl=en

Grigoriou, N., Majumdar, A., & Lie, L. (2018). Drivers of Brand Switching Behavior in Mobile Telecommunications. Athens Journal of Mass Media and Communications, 4(1), 7-28. doi:10.30958/ajmmc.4.1.1

Guimaraes, Tor & Paranjape, Ketan. (2014). Testing cloud computing for customer satisfaction and loyalty. International Journal of Electronic Customer Relationship Management. 8. 72. 10.1504/IJECRM.2014.066885.

Gupta, P., Seetharaman, A. & Raj, J. R. (2013), "The usage and adoption of cloud computing by small and medium businesses", International Journal of Information Management, Vol. 33 No. 5, pp.861-874.

Kennedy, J. (2014, August 1). NYC judge orders Microsoft to hand over data stored on Irish servers. Retrieved from http://www.siliconrepublic.com/enterprise/item/37847-nyc-judge-orders-microsoft/

Lin, A. & Chen, N. C. (2012), Cloud computing as an innovation: Percepetion, attitude, and adoption,International Journal of Information Management, Vol. 32 No. 6, pp. 533-540.

Madahi, A., & Sukati, I. (2015). An Empirical Study of Malaysian Consumers' Channel-switching Intention: Using theory of Planned Behaviour. Global Business Review, 17(3), 489-523. doi:10.1177/0972150916630447

Malic, Hamezah & Izhar, Tengku & Abdul Kadir, Mohd Razilan. (2019). Current Development on Cloud Computing Service Models for End Users Data Analysis. International Journal of Learning and Development. 9. 14. 10.5296/ijld.v9i2.14884.

Martini, B. and Choo, K. K. R., (2013). Cloud Storage Forensics: OwnCloud as a Case Study Digital Investigation, 10, 287–299.

Mohd Fateh, M. A., & Mohamed, T. (2016). Cloud Based Storage Application as A Project Information Management Tool for Grade G5 Contractors In Selangor. Infrastructure University Kuala Lumpur Research Journal, 4(1), 10-19.

Neicu, Andra-Ileana & Radu, Anamaria-Cătălina & Zaman, Gheorghe & Stoica, Ivona & Răpan, Florian. (2020). Cloud Computing Usage in SMEs. An Empirical Study Based on SMEs Employees Perceptions. Sustainability. 12. 4960. 10.3390/su12124960.

O'Gorman, D. (2015). Cloud computing data storage: Usage, security and privacy issues for individual users (Master's thesis).

O'Gorman, D. (2015). Cloud computing data storage: Usage, security and privacy issues for individual users.

Ping Jnr, R.A. (1994). Does satisfaction moderate the association between alternative attractiveness and exit intention in a marketing channel? Journal of the Academy of Marketing Science, 22(4), 364-371.

Quick, D, Martini, B & Raymond Choo, K. (2014). Cloud Storage Forensics, pp.1-11.Rezgui,

Quick, D. and Choo, K. K. R. (2013). Digital droplets: Microsoft SkyDrive forensic data remnants. Future Generation Computer Systems-the International Journal of Grid Computing and Escience, 29, 1378-1394.

Quick, D. and Choo, K. K. R. (2013). Dropbox analysis: Data remnants on user machines.Digital Investigation, 10, 3-18.

Rao, D. U., V.C.S.M.R, D. P., & Gundala, D. R. (2016). Brand Switching Behavior in Indian Wireless Telecom Service Market. Journal of Marketing Management (JMM), 4(2). doi:10.15640/jmm.v4n2a9

S. Pearson and A. Benameur, "Privacy, Security and Trust Issues Arising from Cloud Computing," 2010 IEEE Second International Conference on Cloud Computing Technology and Science, Indianapolis, IN, 2010, pp. 693-702, doi: 10.1109/CloudCom.2010.66.

Sun, Y., Fang, Y., Lim, K., & Straub, D. (2012). User Satisfaction with Information Technology Service Delivery: A Social Capital Perspective. Information Systems Research, 23(4), 1195-1211. Retrieved February 5, 2021, from http://www.jstor.org/stable/42004252

Wang Nianxin, Shi Hui, Wang Zhiying, Ge Shilun(2018). Coping Behavior of IT Threat: An Empriical Study in Context of Cloud Computing. Journal of Information Systems Management, Vol.27, No.4, 683-693.

Wang, C., Chow, S. S. M., Wang, Q., Ren, K. & Lou, W. (2013), Privacy-Preserving Public Auditing for Secure Cloud Storage, IEEE Transactions on Computers, Vol. 62 No. 2, pp.362-375.

Wang, J. (2016), Critical Factors for Personal Cloud Storage Adoption in China, Journal of Data and Information Science, Vol. 1 No. 2, pp. 60-74.

WANG, J., & WANG, J. (2016). Critical Factors for Personal Cloud Storage Adoption in

Wang, Jianya. (2016). Critical Factors for Personal Cloud Storage Adoption in China Critical Factors for Personal Cloud Storage Adoption in China. Journal of Data and Information Science. 1. 60-74. 10.20309/jdis.201614.

Wang, Y. F., Zhu, X. D. & Management, C. O. (2018), An Empirical Study on the Influencing Factors of User 's Willingness of Personal Cloud Storage Service, China Forestry Economics.

Wornchanok Chaiyasoonthorn, Kulapa Najantong, and Singha Chaveesuk. 2018. Satisfaction of Working People in Thailand in Their Usage of Cloud Storage Systems. In Proceedings of the 2018 10th International Conference on Information Management and Engineering (ICIME 2018). Association for Computing Machinery, New York, NY, USA, 45–50. DOI:https://doi.org/10.1145/3285957.3285982

Y.and Marks, A. (2008). Information security awareness in higher education: An exploratory study. Computers & Security, 27(7-8), pp.241-253.

Yahya, F. (2017). A Security Framework to Protect Data in Cloud Storage (Doctoral dissertation)

Yahya, F., Chang, V., Walters, R., & Wills, G. (2019). A Security Framework to Protect Data in Cloud Storage. Proceedings of the 4th International Conference on Internet of Things, Big Data and Security. doi:10.5220/0007737603070314

Zhang, Z. K., Chueng, M. K., & Lee, K. O. (2012). Online Service Switching Behavior: The Case of Blog Service Providers. Journal of Electronic Commerce Research, 13(3), 182-197.