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Comparative Analysis of Steam and Epic Games Store Application Satisfaction Levels Using the Pieces Method

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Abstract
Application-based game stores are on the rise recently, so there is a tight gap between Steam and the Epic Games Store. This research provided a description of user satisfaction level towards the two applications and served as a measure of the success of these two applications. The type of research conducted was quantitative research that analyzes data collection from a Likert scale questionnaire instrument. The method used was a descriptive analysis of user satisfaction level on both applications using the PIECES method. This research showed that both applications get satisfaction level results of "Satisfied" category in all variables of the PIECES method. Based on each variable value, the Epic Games Store application was superior to the Steam application. Epic Games Store exceled in four variables, namely Information, Economics, Efficiency, and Service, while the Steam application exceled only in Control & Security variable. Performance variables in both applications got the same value.

Keywords: Games Store, PIECES Method, Satisfaction Level.

Introduction

The rapid increase in internet technology has had an impact on social change in society. Many businesses are starting to emerge by taking advantage of the improvement in information technology. One of them is the existence of a business in the sale of application-based games that can help buyers in providing solutions to problems that are commonly experienced, such as sometimes buyers have to feel disappointed because the games they want have been sold out so they have to wait for the availability of goods again and reduce the process of buying games through the application provided and can download games that have been purchased to play so that there is no need to come to store back. App-based game stores that are currently in fierce competition are Steam and Epic Games Store.

The level of competition between Steam and the Epic Games Store is getting stronger. Plus the Epic Games Store has been the talk of gamers because the store often gives games for free to users within a certain period of time. Later users only need to make a claim on the game in question

and can immediately download and play the game. In addition, the number of daily active users of these two apps is quite large, although there is a slight difference between the two.

According to the official Epic Games Store (store.epicgames.com) website, the highest total number of daily active users of their app in 2023 is 36.1 million users. On the other hand, according to the SteamDB (steamdb.info) website, the total number of daily active users of the Steam application in 2023 is 36.9 million users. Although between these two applications, Steam is a newer application compared to Epic Games. Steam at the beginning of its release was more widely known by users because at that time Epic Games was still a company in the field of 3D technology providers. Currently, the Steam application can be used on smartphone and desktop platforms, while currently the Epic Games Store application can only be used on desktop platforms.

Research on the Steam application has been conducted by Rafif Imam Fajari with the research title "Analysis of the Level of Satisfaction of Steam Application Users Using the PIECES Method" in 2022. In the study, it was found that every application that is running cannot always be long-lived and there are often application problems experienced by users. The developer needs to develop an application, namely compiling a new system to replace the old system as a whole or improve the existing system. Thus, the application can have a long life and provide more satisfaction for its users. Application development needs to be carried out more detailed and specific research so that the application can run well and get appropriate results. Especially now that Steam has many competitors in the sale of video games.

In addition to these two applications, there are still various applications with models such as the Steam application and the Epic Games Store. However, there are differences that make applications other than Steam and Epic Games Store less in demand. Some of the apps or websites that have the same functionality as Steam and the Epic Games Store are EA App, Ubisoft Connect, Humble Bundle and Xbox App. Here is table 1.1 that explains the shortcomings of some of these apps:

Table 1. Disadvantages of App Store Other than Steam and Epic Games Store

Application	Deficiency
EA App	It only sells games published by Electronic Arts (EA). Games published by EA are also sold on the Steam app and the Epic Games Store and will be synced by the EA App.
Ubisoft Connect	It only sells games published by the Ubisoft company. Games published by Ubisoft are also sold on the Steam app and the Epic Games Store and will be synced by the Ubisoft app.
Humble Bundle	It does not provide the type of payment through electronic money that is commonly used by users in

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Application	Deficiency
	Indonesia and the price listed does not use the unit of Indonesian Rupiah (IDR). Games purchased on this application, users still have to redeem on the Steam application.
Xbox App	Only sell published games and games that are supported by the Xbox company. Payment can only be made via debit card, credit card, and PayPal.

Based on table 1, some of the applications in question have several drawbacks such as only selling games from developers from the game makers, the prices listed on the applications do not use Indonesian Rupiah (IDR), and game payments can only be made through debit cards, credit cards, and PayPal.

After looking at the shortcomings of some of the applications mentioned earlier, the tightness of competition and ease of use of applications between Steam and the Epic Games Store as well as the problems found in the research that has been conducted previously can be seen. This is related to the level of user satisfaction between the Steam application and the Epic Games Store, so that both applications can be used as research topics using the PIECES method. The PIECES method is a method used to solve a problem in a system by using variables that are divided into six different variables, namely Performance, Information, Economic, Control & Security, Efficiency, and Service. This research will provide results in the form of an overview of the level of user satisfaction with the two applications and become a measure of the success of these two applications.

Method

This research method describes the systematic procedure used to analyze the comparison of the satisfaction level of the Steam and Epic Games Store applications with the PIECES method. This study follows previous studies that have examined Steam, with the main goal of gathering additional data on the Epic Games Store for further analysis. The approach used is quantitative with a questionnaire instrument that includes six PIECES variables: Performance, Information, Economic, Control & Security, Efficiency, and Service. The research process included determining the research object, designing the research model, collecting data from 150 respondents, and analyzing the data through validity and reliability tests using SPSS. A descriptive analysis was then carried out to draw conclusions regarding the level of user satisfaction with the two applications.

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Results and Discussion

Characteristics of Respondents

Table 1. Results of Respondent Characteristics

Characteristic	Steam		Epic Games Store	
	Sum	Percentage (%)	Sum	Percentage (%)
Male	129	86%	110	73,3%
Woman	21	14%	40	26,7%
Total Respondents	**150**	**100%**	**150**	**100%**
15 – 20 Years	22	14,7%	25	16,7%
21 – 30 Years	126	84%	111	74%
31 – 40 Years	2	1,3%	11	7,3%
> 40 Years	0	0%	3	2%
Total Respondents	**150**	**100%**	**150**	**100%**
Students/Students	122	81,3%	76	50,7%
Employees/Employees	24	16%	41	27,4%
Entrepreneurial	0	0%	9	6%
Not Working Yet	3	2%	5	3,3%
Others	1	0,7%	19	12,7%
Total Respondents	**150**	**100%**	**150**	**100%**

Table 1 describes the shortcomings of several game store apps other than Steam and Epic Games Store, such as EA App, Ubisoft Connect, Humble Bundle, and Xbox App. These shortcomings include limitations in the variety of games sold, where EA App and Ubisoft Connect only provide games from their respective publishers, as well as a lack of flexibility in payment methods, such as Humble Bundle which does not support electronic money payments that are commonly used in Indonesia and prices which is not in Rupiah. In addition, the Xbox App only sells games supported by Xbox and restricts payment methods to debit cards, credit, and PayPal. This shows that despite the variety of digital game store alternatives, Steam and the Epic Games Store remain the top choices because they offer a wider variety of games as well as ease of access and payment.

Validity Test

Table 2. Steam Application Questionnaire Validity Test Results

Variable	Items	Calculate	Table	Information
Performance	P1	0.715	0.278	VALID
	P2	0.748	0.278	VALID

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Variable	Items	Calculate	Table	Information
	P3	0.750	0.278	VALID
	P4	0.794	0.278	VALID
Information	I1	0.762	0.278	VALID
	I2	0.654	0.278	VALID
	I3	0.815	0.278	VALID
	I4	0.835	0.278	VALID
	I5	0.640	0.278	VALID
Economics	E1	0.798	0.278	VALID
	E2	0.842	0.278	VALID
	E3	0.855	0.278	VALID
	E4	0.770	0.278	VALID
Control & Security	C1	0.740	0.278	VALID
	C2	0.714	0.278	VALID
	C3	0.742	0.278	VALID
	C4	0.589	0.278	VALID
	C5	0.639	0.278	VALID
Efficiency	EF1	0.736	0.278	VALID
	EF2	0.814	0.278	VALID
	EF3	0.768	0.278	VALID
	EF4	0.735	0.278	VALID
Service	S1	0.789	0.278	VALID
	S2	0.713	0.278	VALID
	S3	0.764	0.278	VALID
	S4	0.739	0.278	VALID
	S5	0.786	0.278	VALID

Table 2 displays the results of the questionnaire validity test for the Steam application based on the six variables of the PIECES method, namely Performance, Information, Economics, Control & Security, Efficiency, and Service. Each variable has multiple question items that are tested using the Rcalculate value and compared to the Rtable of 0.278. The test results show that all items in each variable have a value of Rcalculate greater than the Rtable, so all items are declared valid. This means that the questionnaire instrument used in this study can be trusted to accurately measure the level of user satisfaction with the Steam application.

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Table 3. Epic Games Store Application Questionnaire Validity Test Results

Variable	Items	Calculate	Table	Information
Performance	P1	0.809	0.278	VALID
	P2	0.870	0.278	VALID
	P3	0.811	0.278	VALID
	P4	0.811	0.278	VALID
Information	I1	0.869	0.278	VALID
	I2	0.870	0.278	VALID
	I3	0.672	0.278	VALID
	I4	0.800	0.278	VALID
	I5	0.784	0.278	VALID
Economics	E1	0.784	0.278	VALID
	E2	0.695	0.278	VALID
	E3	0.778	0.278	VALID
	E4	0.692	0.278	VALID
Control & Security	C1	0.848	0.278	VALID
	C2	0.753	0.278	VALID
	C3	0.786	0.278	VALID
	C4	0.702	0.278	VALID
	C5	0.763	0.278	VALID
Efficiency	EF1	0.895	0.278	VALID
	EF2	0.826	0.278	VALID
	EF3	0.847	0.278	VALID
	EF4	0.870	0.278	VALID
Service	S1	0.749	0.278	VALID
	S2	0.779	0.278	VALID
	S3	0.816	0.278	VALID
	S4	0.819	0.278	VALID
	S5	0.807	0.278	VALID

Table 3 presents the results of the questionnaire validity test for the Epic Games Store application based on six variables of the PIECES method, namely Performance, Information, Economics, Control & Security, Efficiency, and Service. Each variable consists of several question items that are tested using the Rcalculate value and compared to the Rtable of 0.278. The test results show that all items in each variable have a value of Rcalculate greater than the Rtable, so all items are declared valid. Thus, the questionnaire instrument used can be considered legitimate and is able to accurately measure the level of user satisfaction with the Epic Games Store application.

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Reliability Test

Table 4. Steam Application Questionnaire Reliability Test Results

Variable	Cronbach's Alpha	Information
Performance	0.741	RELIABLE
Information	0.789	RELIABLE
Economics	0.832	RELIABLE
Control & Security	0.705	RELIABLE
Efficiency	0.753	RELIABLE
Service	0.814	RELIABLE

Table 4 displays the results of the questionnaire reliability test for the Steam application using Cronbach's Alpha values for each variable in the PIECES method, namely Performance, Information, Economics, Control & Security, Efficiency, and Service. All variables showed Cronbach's Alpha values above 0.7, which means all variables had a high level of reliability. These results show that the questionnaire instrument used in this study is consistent and reliable to measure the level of user satisfaction with the Steam application.

Table 5. Epic Games Store Application Questionnaire Reliability Test Results

Variable	Cronbach's Alpha	Information
Performance	0.842	RELIABLE
Information	0.852	RELIABLE
Economics	0.711	RELIABLE
Control & Security	0.805	RELIABLE
Efficiency	0.873	RELIABLE
Service	0.849	RELIABLE

Table 5 presents the results of the questionnaire reliability test for the Epic Games Store application using Cronbach's Alpha values on the six variables of the PIECES method, namely Performance, Information, Economics, Control & Security, Efficiency, and Service. All variables had a Cronbach's Alpha value above 0.7, indicating that the questionnaire had a high level of reliability. These results show that the instruments used in this study are consistent and reliable to accurately measure the level of user satisfaction with the Epic Games Store application.

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Descriptive Analysis

Table 6. Descriptive Analysis Test Results

It	Variable	Steam		Epic Games Store	
		Value	Category	Value	Category
1	Performance	4.07	SATISFIED	4.07	SATISFIED
2	Information	4.00	SATISFIED	4.16	SATISFIED
3	Economics	3.79	SATISFIED	3.96	SATISFIED
4	Control & Security	3.93	SATISFIED	3.90	SATISFIED
5	Efficiency	4.06	SATISFIED	4.09	SATISFIED
6	Service	3.98	SATISFIED	4.15	SATISFIED

Table 6 displays the results of a descriptive analysis of user satisfaction levels with the Steam and Epic Games Store applications based on six variables of the PIECES method, namely Performance, Information, Economics, Control & Security, Efficiency, and Service. The results show that both applications obtained a "Satisfied" category across all variables, with varying values. The Epic Games Store excelled in the variables Information (4.16), Economics (3.96), Efficiency (4.09), and Service (4.15), while Steam excelled in the Control & Security variable (3.93 vs. 3.90). The Performance variable obtained the same value for both applications, which is 4.07. These findings show that overall both apps provide satisfaction to users, but the Epic Games Store is superior in terms of economy, efficiency, and service, while Steam is better in terms of security and control.

Conclusions

Based on the results of the study using the PIECES method, it can be concluded that both Steam and Epic Games Store obtained a level of user satisfaction in the "Satisfied" category on all variables analyzed. The Epic Games Store excels in four variables, namely Information, Economics, Efficiency, and Service, while Steam excels in the Control & Security variable, while the Performance variable has the same value for both apps. These findings show that while both apps provide a satisfying experience for users, the Epic Games Store is favored in terms of information, economy, efficiency, and service, while Steam is more trusted in terms of security and control. Therefore, the developers of each application can consider these results to improve the quality of service to retain and attract more users.

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