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The Role of Cynicism in the Context of Healthcare Apps: Evidence from Indonesia

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ABSTRACT

This study aims to identify the factors influencing cynicism and the impact of cynicism on the usage of healthcare apps and platforms in Indonesia. This work proposes a model to explain the formation of cynicism and its impact on attitude in Indonesia. Data was collected from 200 healthcare app users through an online survey questionnaire. The results of structural equation modeling show that anxiety, negative emotions, and security plays a significant role in forming cynicism. The study also found that cynicism is vital in increasing attitudes toward failure and decreasing attitudes toward learning. These results indicate high cynicism towards healthcare apps due to anxiety, negative emotions, and security, which impact increasing attitudes toward failure and decreasing attitudes toward learning. These findings provide theoretical insight and practical contribution. In addition, limitations and directions for future research are discussed.

Keywords: Cynicism, Healthcare apps, Attitudes toward failure, Attitudes toward learning, Anxiety, Negative emotions, Security, Indonesia.

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دور السخرية في سياق تطبيقات الرعاية الصحية: دليل من إندونيسيا

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ملخص

تهدف هذه الدراسة إلى تحديد العوامل التي تؤثر على السخرية وتأثير السخرية على استخدام تطبيقات ومنصات الرعاية الصحية في إندونيسيا. على الرغم من الطلب المتزايد على استخدام تطبيقات الرعاية الصحية في إندونيسيا، لا تزال الدراسات التي تبحث في العوامل التي تؤثر على السخرية في استخدام تطبيقات الرعاية الصحية محدودة نسبيًا. يقترح هذا العمل نموذجًا لشرح تشكيل السخرية وتأثيرها على الموقف في سياق إندونيسيا. تم جمع البيانات من 200 مستخدم لتطبيقات الرعاية الصحية من خلال استبيان استطلاع عبر الإنترنت. وتظهر نتائج نمذجة المعادلات الهيكلية أن القلق والعواطف السلبية والأمن تلعب دورًا مهمًا في تشكيل السخرية. كما وجدت الدراسة أن للسخرية دورًا قويًا في زيادة المواقف تجاه الفشل وتقليل المواقف تجاه التعلم. تشير هذه النتائج إلى درجة عالية من السخرية تجاه تطبيقات الرعاية الصحية بسبب القلق والمشاعر السلبية والأمن، التي لها تأثير على زيادة المواقف تجاه الفشل وتقليل المواقف تجاه التعلم. وتوفر هذه النتائج البصيرة النظرية والمساهمة العملية. بالإضافة إلى ذلك، تتم مناقشة القيود والتوجيهات الخاصة بالبحوث المستقبلية.

الكلمات الدالة: تطبيقات الرعاية الصحية، السخرية، المواقف تجاه الفشل، المواقف تجاه التعلم، القلق، المشاعر السلبية، الأمن، إندونيسيا.

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1. Introduction

The emergence of cynicism among healthcare app users has become a highlight in Indonesia. There is a considerable gap in the usage of healthcare apps in the country, including service fees, quality of health diagnoses, trustworthy doctors, and specialist consultations that only satisfied 15.4% of the users (Jamaludin, 2021; Amalia, 2021). The data indicates that more than 80% of healthcare app users in Indonesia are not satisfied with the products and services. As a result, users comment negatively on healthcare apps, including privacy concerns, quality of services, and unfriendly doctors (Ashari et al., 2021). This event is called cynicism, where the Indonesian people have a negative assessment of the healthcare apps, which may reduce trust among their users and cause reluctance to reuse the services (Hermawan & Paramita, 2021).

Alodokter is one of the online healthcare platforms in Indonesia that has been registered under the Ministry of Health. The platform was established in 2014 and is currently collaborating with more than 30.000 doctors across the country to provide online healthcare services (www.alodokter.com, 2022). Alodokter apps provide several features; namely, direct chat with doctors, booking consultations or appointments with doctors and looking for the hospital of choice, health articles and health insurance, shopping for health needs, and the Alomedika platform for exchanging medical information with fellow medical personnel (www.alodokter.com, 2022). However, not everyone chooses this healthcare app due to several issues that may harm consumers, including fear of being scammed and leak of personal data as the privacy of data policies on the platforms have not been carried out correctly (Kumparan, 2021; CNN Indonesia, 2021). As a result, users feel discomfort in using the apps and are unwilling to reuse them.

Cynicism in the context of healthcare app usage has yet to be widely discussed in the literature (Chakraborty & Paul, 2022). As a result, there is a need for more understanding of cynicism in healthcare app services. However, cynicism plays a crucial role in healthcare apps which refers to anxiety, negative emotions, bad perception, and lack of security towards the platform that put the customer at high risk (Jaeger et al., 2018; Chen et al., 2021; Rajaobelina et al., 2021). Helm et al. (2015) argued that attitude and cynicism are associated. Cynicism defines an attitude of uncertainty, helplessness, distrust, insecurity, and discomfort because of the lack of data privacy. When users have bad experiences because the product does not meet their expectations, they may have high negative emotions (Jaeger et al., 2018; Chen et al., 2021). Also, the inability of the platform to protect users' data leads to highly cynical behavior. As a result, it affected the number of users (Jeager et al., 2018; Pham et al., 2019; Zhu et al., 2021) drastically. Consequently, users are uncomfortable using the apps again because of their anxiety, fear, and worries about having similar experiences regarding the services and products provided (Martoncik & Loksa, 2016; Engin, 2019).

Despite the growing demand for the use of healthcare apps, studies investigating the factors influencing cynicism in healthcare apps still need to be more comprehensive (Durrah et al., 2019). Cynicism toward healthcare apps affects individual evaluations that lead to behavioral changes (Bang & Reio, 2017; Chaouali et al., 2017; Taris et al., 2017). Several studies showed the effect of Cynicism on attitudes toward failure and learning (Chaouali et al., 2017). The effect of cynicism on attitudes toward failure occurs because individuals with low self-confidence generally think that the app is unimportant, inefficient, vulnerable, and risky. Therefore, this behavior can form users' resistance to not adopting new technologies (Chaouali et al., 2017). Another study found that the high effect of cynicism harms attitudes toward learning, creating negative emotions such as anger, stress, and anxiety. In addition, it influenced discomfort and hatred to increase knowledge of a

better use of information systems (Taris et al., 2017; Durrah, 2020). This evidence indicates the importance of examining the causes and effects of cynicism on the use of healthcare apps in Indonesia.

This study proposes two research objectives. First, to determine the factors that form cynicism in using healthcare apps. Second, to understand the effect of cynicism on attitudes toward learning and failure when using healthcare apps. Hence, by understanding these objectives, companies can improve their services and policies to become more reliable and trustworthy. Since this study focuses on healthcare apps, we expect that the results will provide significant insights for developing and developed countries in crafting better policies and strategies for improving the quality of digital healthcare services.

2. Literature Review

2.1. Cynicism

The concept of cynicism is part of psychological study. Cynicism is defined as a gap in belief, honesty, or goodness of human motivations and actions (Manchanda & Deb, 2021). The manifestation of cynicism is in the form of feelings caused by distrust and doubt, without having confidence in an object of judgment. Cynicism is also outlined as a negative attitude, such as dislike and distrust of something (Andersson & Bateman, 1997). Moreover, some scholars believe that cynicism is a negative evaluation or attitude toward objects characterized by frustration, hopelessness, disillusionment, suspicion, distrust, and dissatisfaction (Chylinski & Chu, 2010; Chen et al., 2021). In the context of healthcare app services, cynicism can be expressed as a negative evaluation of the attitude of distrust and dissatisfaction toward the online system as a result of bad experiences gained from prior use (Andersson & Bateman, 1997; Cappella, 2002; Chylinski & Chu, 2010; Hasan et al., 2017).

Chu and Chylinski (2006) investigated cynicism's consequences and antecedents. Past studies found that the antecedent variables of cynicism are anxiety, negative emotions, and security (Chen et al., 2016; Hoffmann et al., 2016; Jaeger et al., 2018). App users who feel anxious and afraid to interact with technology tend to make more pessimistic judgments, leading to higher risk perception and a high cynicism about app usage (Rajaobelina et al., 2021). In addition, privacy and information security are requirements for users (Chen et al., 2020). Again, inconvenience and interference with user data privacy engender emotional exhaustion that drives a higher cynicism not to reuse. Furthermore, a high level of stress during the app's usage causes adverse emotional reactions, which may affect the degree of cynicism, and unwillingness to reuse the platform (Zhang, 2016; Chen et al., 2016; Abisheva et al., 2016).

Moreover, studies in the context of healthcare apps highlighted that attitudes toward failure and attitudes toward learning could increase cynicism (Chaouali et al., 2017). A high level of negative emotions among users in terms of dissatisfaction and frustration with the healthcare app increases cynicism which assesses failure to continue using it (Chaouali et al., 2017; Durrah, 2020). An increase in individual cynicism toward application services perceived as useless and dangerous reduces attitudes toward learning about them (Albrecht, 2010; Chaouali et al., 2017).

2.2. Attitude toward Failure

Attitude is considered an individual's general evaluation of a particular event or an object (Al-Majali, 2020; Fenitra & Haryanto, 2019). It provides cognitive or affective assessment based on the knowledge and information of the event or object (Lapiere, 1934; Bohner & Dickel, 2011). Failure refers to a lack of success or inability to meet an expected outcome or result. Failures include errors and negative results from performing a particular action (Cannon & Edmondson, 2001). Accordingly, attitude toward failure is outlined as a pattern of behavior in the form of an entity as well

as giving negative evaluations from individuals to online application services that are not in line with their expectations that have not provided success in achieving the desired goals (Ahmad Amin et al., 2020; Politis & Gabrielsson, 2009; Bohner & Dickel, 2011).

An individual who feels cynical evaluates the failure rate as higher than the success rate if the app does not provide benefits (Chaouali et al., 2017). Cynicism refers to negative feelings, dissatisfaction, and frustration. The negative emotions influence attitudes toward failure, which affect one's resistance to using information systems (Durrah, 2020). A mobile app that is still relatively new is perceived by individuals as challenging to learn, unreliable, and dubious in its usefulness, in which users give negative evaluations that the app might fail in operation (Mehra & Mital, 2007; Malik et al., 2019). Politis and Gabrielsson (2009) stated that negative experience positively affects attitude toward failure. It can trigger resistance to using an online app. Therefore, it can be concluded that high individual cynicism will increase attitude toward failure.

H1: Cynicism positively affects attitudes toward failure to use healthcare apps.

2.3. Attitude toward Learning

Attitudes toward learning are a positive evaluation of a given content or material (Kearney, 1985). Grabinger and Dunlap (1995) proposed two categories of learning. The first type of learning is a reading and numeracy skill in obtaining a predetermined value at a certain standard. This type of learning is predetermined for a particular purpose. The second assumption of learning is called cognition, which involves processing to obtain information that evolves for better structural knowledge (Grabinger & Dunlap, 1995). In other words, based on these above definitions, attitude towards learning can be defined as a positive evaluation of an object to increase knowledge through information to become a better object.

Chaouali et al. (2017) asserted that learning about online service apps is useless and even harmful for individuals who feel cynical about the system. Moreover, the cynicism effect improves the attitude toward learning technology which can benefit them (Mehra & Mital, 2007). It assumes that negative perceptions toward technology usage make it difficult to change the individual eagerness to learn technology. Consequently, high cynicism makes individuals who do not believe in an object or are not motivated to continue using the product (Albrecht, 2010; Indibara & Varshney, 2021). Individuals' willingness to use mobile apps is due to negative motivation, because they consider the app unreliable in its usefulness (Malik et al., 2019). This condition is due to individuals' low experience and knowledge of mobile apps. Consequently, they might feel dislike and distrust, which makes them behave cynically toward using a mobile app (Manchanda & Deb, 2021). This study, therefore, suggested that higher cynicism in using an online app decreases the attitude toward learning.

H2: Cynicism negatively affects attitudes toward learning to use healthcare apps.

2.4. Anxiety

Anxiety is a psychological construction or a syndrome of an object or fears due to distrust over the object (Cambre & Look, 1985). It is also interpreted as an adverse effect, such as worry. In addition, it is often related to an object that causes the impact of being less interested in an object (Celik, 2016; Engin, 2019). In the healthcare app context, anxiety is a sense of fear and worry due to the impact of usage of an online service app, precisely when the reality does not match the users' expectations (Stasiak et al., 2015; Celik, 2016; Martoncik & Loksa, 2016).

A previous study showed that a high level of cynicism is influenced by high levels of anxiety about

the use of internet computers (Sahin & Uslu, 2014). Anxiety can occur due to difficulty in using the app. As a result, this feeling makes individuals feel tired and cynical to continue to use the product (Salanova & Wilmar, 2000; Sahin & Uslu, 2014). Cynicism can also be explained as a negative evaluation or assessment of the vulnerable object in online services. For example, healthcare apps require multitasking, which can cause anxiety, fear of making mistakes when the users have insufficient knowledge, and lack of support from the environment, which leads to high cynicism not using them (Sezgin et al., 2018; Varghese, 2020). Accordingly, it creates a sense of distrust which impacts the negative assessment of individuals being reluctant to continue using the app (Celik, 2016). Hence, it can be concluded that a high level of anxiety can increase the degree of cynicism among individuals.

H3: Anxiety has a positive effect on cynicism in the use of healthcare apps.

2.5. Negative Emotions

Emotions are categorized into positive and negative types (Fisher, 2000; Hu et al., 2012). Positive emotions lead to good benefits, such as happiness, health, and other positive attitudes (Hu et al., 2012; Fenitra et al., 2021a). In contrast, negative emotion is defined as an attitude that leads to negative feelings, such as sadness, pain, and various other negative attitudes (Hu et al., 2012). In this study, negative emotion is being studied. Negative emotion refers to a response of displeasure and unhappiness due to the difference between what is desired and what is felt and occurs (Eisenberg & Spinrad, 2004; Campos et al., 2013; Zhang, 2016; Chen et al., 2016). Fisher (2000) explained that negative emotions positively affect individual dissatisfaction due to unpleasant experiences in the work environment that make them cynical about their organization implementing information systems.

Negative emotions caused by the expression of displeasure lead to a negative evaluation or even a more extreme reaction that results in reluctance to use information systems (Abisheva et al., 2016). Radical technological transformations that do not provide ease of use are perceived negatively by users. Subsequently, the negative perception leads to high negative emotions that increase cynicism and the tendency not to use information systems (James, 2005). Furthermore, the high stress in using new and complex information systems has adverse effects represented in hopelessness, frustration, and disappointment. An individual's negative emotional response can affect cynicism, not reuse (Greenglass et al., 2003). It will then influence cynicism not to continue using the app (James, 2005; Byrne & Hochwarter, 2008). Therefore, it can be concluded that when an individual has negative emotions, his/her cynicism about the usage of a particular product increases.

H4: Negative emotions positively affect Cynicism in healthcare apps.

2.6. Security

In online apps, security is maintaining and protecting the user's personal information (Guo et al., 2012; Elhai & Hall, 2015; Balozian & Leidner, 2017). Josang et al. (2007), Shin (2010), and Demme (2013) claimed that security can be defined as a protection of the system to protect online application services and personal information from various interferences from other parties. Hoffman et al. (2016) identified a relationship between security and cynicism in information systems. Their findings explained that being aware of the risks to the privacy and security of personal data in information systems can increase individual cynicism.

As a result, a poor security system will lead to a cynical attitude toward individual privacy, which harms the progress and development of its continued use. A low-security system in the form of unreliability

in managing personal data is perceived to have a high risk that impacts cynical behavior toward security information systems (Jeager et al., 2018). Individuals who underestimate the security of information systems tend to rate the system negatively, so that they will not use it. A sense of cynicism about not reusing can arise when app security malfunctions are present (Gao, 2016). Protection of personal data security systems is perceived to have a high risk and is considered unreliable, impacting highly cynical behavior toward app use (Jeager et al., 2018; Pham et al., 2019). The low security of individual privacy, which is synchronized with the risk of privacy and personal information security, is the cause of emotional exhaustion and cynicism, which is described in the form of frustration, hopelessness, and disappointment and has implications for not reusing information system applications (Hoffmann et al., 2016; Tang et al., 2020; Zhu et al., 2021). Thus, based on the prior evidence and arguments, security is one factor that influences cynicism; when security is weak, cynicism increases.

H5: Security negatively affects Cynicism in the use of healthcare apps.

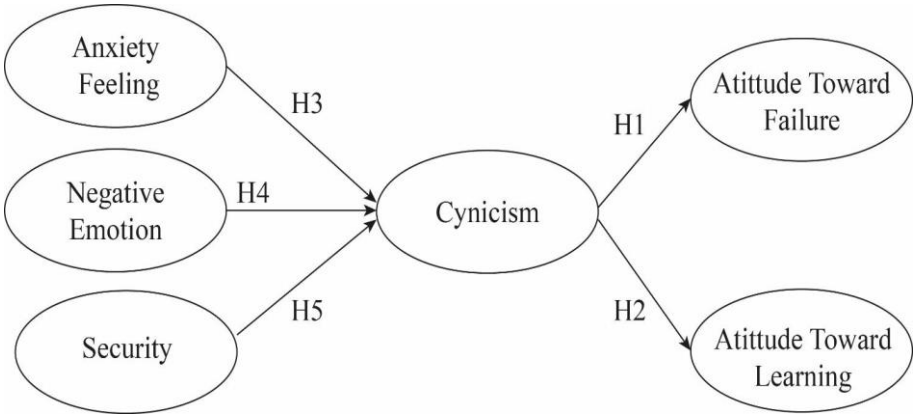

Figure (1)
Conceptual framework

3. Study Methodology

The population of this study is Indonesian people who use healthcare apps. The data was collected through an online survey using a purposive sampling approach (Nueman, 2014). The sample of this study is 200 individuals who used the healthcare apps, which is sufficient for behavioral research, according to Hair et al. (2010). This research only targeted individuals who are 20 years old and older, as they have a sufficient understanding of the context and can independently complete the questionnaire. The questionnaire was designed based on measures adopted from previous studies, modified, and adjusted according to the context of Indonesia. A pilot test of 20 respondents was conducted to validate the relevance of the measurements and measures.

The questionnaire consists of two sections; the first section consists of the respondents' profiles, and the second section contains the questions that measure each variable. Each question was measured using a 5-point Likert scale ranging from 1: strongly disagree, to five: strongly agree. The anxiety variable was measured using items adapted from Elhai and Hall (2015), Celik (2016), and Nagar and Gandotra (2016). The negative emotion variable was measured using items adapted from Fisher (2000), Fokkinga and Desmet (2012), and Cohen (2014). The safety variable

was measured using items adapted from Miyazaki and Fernandez (2000) and Jaeger et al. (2018). The cynicism variable was measured using items adapted from Hasan et al. (2017) and Bang and Reio (2017). Attitude toward failure was measured using items adapted from Cannon and Edmondson (2001) and Chaouali et al. (2017). Finally, attitude toward learning was measured using items adapted from Edwards et al. (2007), Kara (2009), and Chaouali et al. (2017). The statement items for the questionnaire can be seen in Table 4.

4. Results and Discussion

4.1. Respondents' Characteristics

Table 1 describes the sample's demographic characteristics; most respondents were women (n=160). Respondents aged between 20 and 29 years represent ninety percent of the sample. The educational background of the majority of respondents is high school graduates representing 55 percent of the sample. In addition, regarding the frequency of healthcare apps, forty percent of the sample use the healthcare apps once.

Table 1

Demographic characteristics of the respondents

Characteristics	Category	Frequency (n)	Percentage (%)
Sex	Male	40	20
	Female	160	80
Age (years old)	20-29	182	91
	30-39	6	3
	40-49	11	5.5
	≥ 50	1	0.5
Education background	High School	111	55.5
	Diploma	24	12
	Undergraduate	59	29.5
	Postgraduate	6	3
Occupation	Student	149	74.5
	Government worker	11	5.5
	Private sector	29	14.5
	Self-employer	11	5.5
Monthly income (1IDR=0.251USD)	1 million IDR and below	115	57.5
	1 – 2 million IDR	34	17
	2 – 3 million IDR	26	13
	>3 million IDR	25	12.5
Domicile (Island)	Java	175	87.5
	Sumatra	7	3.5
	Papua	1	0.5
	Kalimantan	13	6.5
	Nusa Tenggara	4	2
Frequency of Use	Once	81	40.5
	Twice	75	37.5
	Three times	33	16.5
	> Three times	11	5.5

4.2. Normality Test

A normality test was conducted to ensure that the dataset is well-modeled and normally distributed (Table 2). The normality test was carried out using the C.R. (critical ratio) skewness criterion of ± 2.58 on the assessment of normality with a significant level of 0.01 (Al-Dmour et al., 2022; Durrah, 2020). Therefore, the data used in this study was normally distributed, as the critical ratio skewness value was ± 2.58. Furthermore, Table 2 shows that the univariate normality test gave normally-distributed results, because the critical ratio (CR) values for kurtosis and skewness are between -2.58 and +2.58. Therefore, the normality test indicated that multivariate data meets the normal assumption, as CR is in the range of ± 2.58 (Durrah, 2020).

Table 2

Normality test

Variable	Min.	Max.	Skew	C.R.	Kurtosis	C.R.
NE4	1	5	-0.192	-1,107	-0.528	-1,524
NE3	1	5	0.214	1,234	-0.706	-2,037
NE2	1	5	0.033	0.191	-0.516	-1,491
NE1	1	4	-0.295	-1,700	-1,034	-2,984
AXT4	1	5	0.139	0.805	-0.681	-1,967
AXT 3	1	5	-0.386	-2,229	-0.647	-1,868
AXT 2	1	5	0.007	0.043	-0.566	-1,632
AXT 1	1	5	0.093	0.538	-0.913	-2,636
CYN4	1	5	0.122	0.707	-1,196	-2,451
CYN 3	1	4	-0.18	-1,042	-0.887	-2,56
CYN 2	1	5	0.115	0.663	-1,007	-2,906
CYN 1	1	5	-0.105	-0.609	-0.872	-2,518
ATF4	1	4	0.333	1,924	0.193	0.558
ATF 3	1	5	0.229	1,321	-0.824	-2,379
ATF 2	1	4	-0.212	-1,226	-0.732	-2,114
ATF 1	1	5	0.131	0.756	-0.471	-1,36
SEC4	1	5	0.032	0.185	-1,203	-2,472
SEC 3	1	5	0.207	1,194	-1,39	-2,012
SEC 2	1	5	0.335	1,934	-0.579	-1,671
SEC 1	1	5	0.061	0.353	-1,244	-3,59
ATL5	2	5	0.303	1,750	-0.56	-1,616
ATL4	2	5	0.287	1,655	-0.687	-1,984
ATL3	2	5	-0.019	-0.110	-0.657	-1,895
ATL2	1	5	-0.228	-1,316	0	0.001
ATL1	1	5	0.145	0.837	-0.435	-1,256
Multivariate					26,636	2,126

4.3. Multicollinearity

Multicollinearity testing was conducted to detect the discriminance between constructs. Multicollinearity is thought to occur if there is a high correlation between the independent variables, which is 0.9 or more (Surahman et al., 2021). However, Table 3

demonstrates that the correlations between independent variables are below 0.5, not exceeding 0.9 (Surahman et al., 2021). Thus, it can be concluded that there is no multicollinearity problem found.

Table 3

Multicollinearity test results

	β	***S.E.***	***t***	***p***
SEC <> NE	-0.034	0.08	-0.425	0.671
AXT <> NE	0.058	0.071	0.817	0.414
SEC <>AXT	0.059	0.08	0.744	0.457

4.4. Measurement Test

Validity and reliability tests were carried out to ensure that the measures and measurements were accurate and reliable. These features were assessed through factor loading, Average Variance Extracted (AVE), and reliability. Pham et al. (2019) suggested that the variable is valid if the loading factor is greater than or equal to 0.5. Also, all constructs' composite reliability (C.R.) values are reliable if the threshold value of 0.7 (Al-Rawadiah, 2022) is exceeded. Besides, the AVE values of all constructs must be greater than 0.5 (Pham et al., 2019). The validity test was conducted to determine the feasibility of the questionnaire questions in defining the research variables.

Table 4 shows that the loading factor values are greater than 0.5 (Rajaobelina et al., 2021). A reliability test shows the extent to which a measuring instrument can be trusted or is reliable. The reliability test demonstrated that all the Construct Reliability (C.R.) values were above 0.70 (Rajaobelina et al., 2021; Haryanto et al., 2022). In addition, The AVE test results for all constructs ranged from 0.50 to 0.78, being above the recommended threshold of 0.50 (Fenitra et al., 2011b; Rajaobelina et al., 2021). Therefore, these results concluded that the measurement results obtained are relatively consistent and the items used to test the variables are accurate or reliable.

Table 4

Factor analysis (reliability and validity)

Variables	**Indicator**	**Measurement Items**	**Factor Loading (>0.5)**	**Composite Reliability (C.R.) (>0.7)**	**AVE (>0.5)**
Anxiety Feeling	AXT1	I am feeling restless using the Alodokter healthcare app.	0.811	0.799	0.568
	AXT2	I am fearing of information and data being spread without permission.	0.820		
	AXT3	I am feeling that intimidated by the Alodokter healthcare app.	0.860		
	AXT4	I am feeling that using the Alodokter healthcare app is a bad idea.	0.933		
Negative emotion	NE1	I am feeling afraid when using Alodokter healthcare app.	0.936	0.904	0.500
	NE2	I am feeling uncomfortable when using Alodokter healthcare app.	0.785		
	NE3	I am feeling disappointed when using Alodokter healthcare app.	0.595		
	NE4	I am feeling frustrated when using Alodokter healthcare app.	0.719		

Security	SEC1	I feel that there is a deception when using Alodokter healthcare app.	0.862	0.839	0.513
	SEC2	I feel that the security in the Alodokter healthcare app is not working.	0.840		
	SEC3	I feel that the Alodokter healthcare app is not helpful.	0.699		
	SEC4	I feel that the security on the Alodokter healthcare app is less reliable.	0.823		
Cynicism	CYN1	I am not interested in using Alodokter healthcare app.	0.911	0.893	0.677
	CYN2	I am not enthusiastic about using Alodokter healthcare app.	0.823		
	CYN3	Using Alodokter healthcare app makes me feel dubious.	0.838		
	CYN4	I do not need to use Alodokter healthcare app.	0.842		
Attitude toward Failure	ATF1	I do not like to use Alodokter healthcare app.	0.839	0.929	0.767
	ATF2	Using Alodokter healthcare app is bad.	0.795		
	ATF3	I feel unpleasant when I use Alodokter healthcare app.	0.841		
	ATF4	I encountered an error that caused the failure when using Alodokter healthcare app.	0.798		
Attitude towards Learning	ATL1	I enjoy the difficulties in using the Alodokter application.	0.697	0.948	0.788
	ATL2	I am happy to learn more about Alodokter healthcare app.	0.715		
	ATL3	I am having fun when using the Alodokter healthcare app.	0.912		
	ATL4	I am feeling fine with using Alodokter healthcare app.	0.961		
	ATL5	I am feeling happy using Alodokter healthcare app.	0.929		

4.5. Analysis and Results

The test results use SEM analysis with AMOS, Version 22. Goodness-of-fit was tested as the first step of hypothesis testing. The goodness-of-fit test was assessed to determine whether the proposed model is appropriate for the expected outcome (Fenitra et al., 2021b). The test results indicate that the hypothesized model fits the data for further testing using the SEM technique (Table 5).

Table 5

The goodness-of-fit test results

Fit Index	Criterion Value	Value Output	Information
x^2 = *chi-square*	Expected to be less	258.681	-
GFI	t	0.911	Valid
RMSEA	≤ 0.08	0.021	Valid
AGFI	≥ 0.90	0.878	Valid (marginal limit)

TLI	≥ 0.90	0.993	Valid
NFI	≥ 0.90	0.937	Valid
CFI	≥ 0.90	0.995	Valid
CMIN/DF	≤ 2.00	1.087	Valid
RMR	≤ 0.03	0.055	Valid

Table 6 tests the hypotheses with path analysis. The results show that the effects of cynicism on attitudes toward failure ($t = 5.577$; $p < 0.000$) and on attitudes toward learning ($t = -6.914$; $p < 0.000$) are both significant, indicating that H1 and H2 are supported. In addition, the results test cynicism forming; namely, anxiety ($t = 2.015$; $p < 0.044$), negative emotions ($t = 1.897$; $p < 0.058$), and security ($t = -2.744$; $p < 0.006$) with significant results showing that H3 and H5 are supported. The statistical result ($t = 1.897$; $p > 0.05$) shows that H4 is not supported.

Table 6
Hypothesis Testing Results

Path	*β*	S.E.	*t*	*p*	Conclusion
Cynicism→Attitudes toward Failure	0.400	0.072	5.577	***	H1 Supported
Cynicism→Attitudes toward Learning	-0.368	0.053	-6.914	***	H2 Supported
Anxiety Feeling →Cynicism	0.110	0.055	2.015	0.044*	H3 Supported
Negative Emotion→Cynicism	0.111	0.058	1.897	0.058	H4 Not Supported
Security→Cynicism	-0.185	0.067	-2.774	0.006**	H5 Supported

Note: p-value ***< 0.001; **<0.01; *<0.05.

5. Discussion

This study examines the forming factors and impact of cynicism on healthcare apps in the context of users in Indonesia. The test results show that the main forming factors of cynicism are anxiety, negative emotions, and app security. The study's results also show the impacts of cynicism on attitudes toward failure and attitudes toward learning. The level of anxiety in individuals in the use of technology, such as computers and the internet, positively affects the cynicism experienced by these individuals (Sahin & Uslu, 2014). Individuals who can reduce their level of anxiety tend to reduce cynicism to resist using information systems (Brown et al., 2015). The low level of knowledge possessed by individuals in the use of healthcare app that requires multitasking in their daily routines makes the fear of making mistakes in using the apps and causes Cynicism not to use them (Sezgin et al., 2018). Individuals who have anxiety about using technology due to not having the opportunity to learn, inadequate communication, and lack of support from the environment increase (Varghese, 2020). Cynicism towards the use of healthcare apps will decrease if individuals have the learning ability to reduce anxiety in using technology.

The high negative emotions of individuals also influence cynicism in using healthcare apps. The negative emotions experienced by individuals result in being cynical about the organization, atmosphere, or policies applied in implementing information systems (Cole et al., 2006). Individual negative perceptions of

an app's service system will lead to high negative emotions that increase cynicism, which leads to not using the app (James, 2005). Changes in organizations that carry out radical technological transformations will be perceived negatively by employees, causing low motivation, resisting change, and having an impact on low performance, which is the cause of cynicism toward the organization (Bommer et al., 2005; Byrne & Hochwarter, 2008). Individuals who experience burnout have high levels of negative emotions that affect emotional exhaustion, frustration, and low motivation to do something, contributing to an increase in cynicism that leads to not using information systems in organizations (Greenglass et al., 2003). Technology not designed to make it easy for users causes negative emotions that affect cynicism not to use the applications.

The Alodokter app, which is still relatively new in its development, is perceived by its users as needing to provide better security. Therefore, this affects the high Cynicism of the app. The results of this study are relevant to the study conducted by Gao (2016), which revealed that if the security of the information systems perceived by individuals does not work well, it can foster a sense of Cynicism not to use the apps. A low-security system considered unreliable in protecting personal data is perceived as having a high risk of having a high impact on cynical behavior toward information systems (Jeager et al., 2018; Pham et al., 2019). Individuals experience maceration, and individuals who feel that there is a weakness in personal data security in online transactions overcome their problems by choosing to stop using the app (Hoffmann et al., 2016; Zhu et al., 2021). These various explanations indicate that the security of personal data in the online transaction process is essential in reducing cynicism.

Cynicism can be an individual determining factor in influencing subsequent decision-making. Individuals with cynical feelings have a high probability of application failure, which is considered not beneficial in its use (Chaouali et al., 2017). Those who already feel cynical about an app assessing the services of a technology that is still relatively new are difficult to learn, unreliable, and doubtful of its usefulness. This can give a negative evaluation, considered a failure in operation (Politis & Gabrielsson, 2009; Mehra & Mital, 2007; Malik et al., 2019). This condition also impacts the low learning attitude of individuals to use the app. The high level of cynicism in individuals increases negative motivation for them not to take further action (Indibara & Varshney, 2021). The form of negative motivation can be in the low individual willingness to learn about the use of apps that are considered unreliable for their usefulness (Malik et al., 2019). The experience of using the app has an essential role in making individuals cynical about online apps. Individuals who have never used mobile commerce tend to behave cynically and not to adopt it due to their unwillingness to do usage learning (Manchanda & Deb, 2021). Cynicism, interpreted as an individual judgment that leads to dislike and distrust, contributes to the next decision not to use online healthcare apps that they feel being yet unuseful and difficult to learn.

6. Conclusion

This article examines the factors that form cynicism and their impacts on the use of healthcare apps. Previous studies still need to include gaps in that there is no explanation about the factors that can form cynicism in healthcare apps. However, identified from the various references used, the main factors that cause cynicism toward using healthcare apps were found to be: anxiety, negative emotions, and security. This article also discusses the impacts of cynicism which play a substantial role in subsequent decision-making; namely, attitudes toward failure and attitudes toward learning.

The test results of the study indicate that all hypotheses except H4 are supported. Users feel a high level of anxiety and negative emotions over the complexity of the studied application, and the level of

security is still low. This leads to increase cynicism about healthcare apps. This condition is caused by individuals who need a better experience using healthcare apps, yet the system of this healthcare app is still relatively new. Besides, it still needs much development and is evaluated by users to have not provided reliability in protecting the security of personal data. The high cynicism affecting the high attitudes toward failure and the low attitudes toward learning becomes the basis for individuals to decide not to use online healthcare apps.

6.1. Limitations and Future Research

This study uses only one object of research and one category of respondents; namely, the users of the Alodokter app. Accordingly, future researchers can add several similar application objects and expand the sample used to obtain more generalizations in the field of apps that provide services in the form of information or discussions about health. Furthermore, the study analyzes the impacts of cynicism on attitudes alone. Hence, future research needs to study further the behavioral stage in the use of apps, so that the users' responses can be more clearly measured in a practical way.

6.2. Practical Implications

This study provides material and guidance for management practice. First, healthcare app operator vendors must optimize the interaction function with users and increase the benefits experienced by users. Optimization is carried out by designing app features that facilitate user interface interaction. Features that are easy to learn and use can motivate users to do learning to reduce anxiety and negative emotions due to frustration in learning the services provided by healthcare apps, which can reduce cynicism.

Second, the healthcare app vendors need to pay attention to the privacy of their users. Privacy security effectively increases users' perceived usefulness to continue to use. The privacy security policy is based on simplicity, openness, and transparency of all user transactions. The privacy security policy for using healthcare apps is not only for application developer vendors, but also needs clear legislations in the form of regulations or laws made by the government. The context in Indonesia is that there is a need for revisions to the ITE Law and regulations for healthcare app services to ensure the security of the personal data of healthcare app users.

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