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The Influence of Financial Literacy, Digital Literacy, and Social Capital on Digital Bank Financial Inclusion through Ease of Use an Intervening Variable

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ABSTRACT: The growth of internet users in Indonesia has experienced a significant increase year by year, reaching 78.19% of the total population in 2022-2023. This indicates a broader penetration of the internet among Indonesian society. The national digital banking transaction value shows an increasing trend, reaching Rp5,098.6 trillion in August 2023, reflecting the growing adoption of digital financial services in Indonesia. This increase is supported by the ease of access offered by banks and online financial management, in line with the preferences of the digital era's growing generation, thus Generation Z quickly and comfortably adopts digital banking services. This brings the potential for greater financial inclusion among the younger generation.This study employed a quantitative approach with a causal purpose, applying the Technology Acceptance Model (TAM), Theory of Planned Behavior (TPB), and Theory of Reasoned Action (TRA). The dependent variable (financial inclusion), the intervening variable (ease of use), and the independent variables (financial literacy, digital literacy, and social capital). This study, which includes 200 Bandung City-based Generation Z digital bank customers, uses the Structural Equation Model (SEM) based on Partial Least Square (PLS) as its analytical tool. The study's findings demonstrate that Generation Z's digital bank customers in Bandung City already have very high levels of social capital, financial inclusion, digital literacy, and ease of use. Furthermore, it was shown that the effects of digital literacy, social capital, and financial literacy on financial inclusion might be moderated by simplicity of use. Financial inclusion is also significantly impacted directly by social capital, digital literacy, and financial literacy. It is intended that this research will provide a greater understanding of the variables impacting Generation Z's financial inclusion and how those characteristics may affect policies aimed at boosting the availability and use of financial services in the digital age.

KEYWORDS: Digital Literacy, Ease of Use, Financial Inclusion, Financial Literacy, generation Z, Social Capital

I. INTRODUCTION

It is In the modern era dominated by technological advancements, the financial sector has experienced significant developments through advances in financial technology, often known as "Financial Technology" (Fintech) (Allison et.al, 2023). Fintech has transformed the way we interact with money, investments, payments, and overall financial services. While Fintech brings substantial benefits in terms of ease of access, efficiency, and financial inclusion, new challenges arise related to financial literacy. Financial technology is the application of technology to the financial system that results in new goods, services, technologies, and business models that have an impact on the security, smoothness, efficiency, and dependability of payment systems as well as the stability of the money supply and the financial system.

Number of internet users in Indonesia reached 243.81 million in 2022-2023, an increase of 2.67% from the previous year, equivalent to 78.19% of the total population of Indonesia (Kerthayasa &Darmayanti, 2023). Collaboration between banks and Fintech can enhance financial inclusion in Indonesia because rapid technological development has penetrated all sectors, including the financial sector (Nugroho & Nasionalita, 2020). According to data from Bank Indonesia, the total value of digital banking transactions in August 2023—which includes internet, SMS, and mobile banking—reached IDR 5,098.6 trillion, or around IDR 5.1 quadrillion (Kerthayasa &Darmayanti, 2023.

Understanding financial principles is known as financial literacy. by individuals, including investments, risk management, debt management, and smart financial decision-making. When transitioning to Fintech services, individuals are faced with more complex social capital, including understanding various digital products and services, technological risks, and the responsibility of managing personal data. Understanding technology and regulations related to A crucial component of financial literacy is fintech. The assertion that "financial literacy is the ability to make informed judgments and effective decisions regarding the use and management of money" is backed by the view of Arianti et al. (2020).

The Influence of Financial Literacy, Digital Literacy, and Social Capital on Digital Bank Financial Inclusion through Ease of Use an Intervening Variable

With the increasing number of Fintech innovations, improving financial literacy in Fintech is not only a necessity but also a key to success in fully leveraging the potential of this financial technology revolution (Anisyah et.al, 2021). Good financial literacy among users can enhance the effectiveness of financial inclusion. The term "financial inclusion" describes the availability and involvement of people in the financial system involving different goods and services. Financial inclusion can have a favorable effect onfinancial system stability by increasing banking asset diversification and the stability of the savings base (Soma et.al, 2016).

One interesting phenomenon is the rapid adoption of technology by Gen Z, defined as those born between 1997 and 2012. Having grown up in the digital age, Generation Z are primary users various online banking services, like banking applications, digital wallets, and online investments. Digital banks have been growing in Indonesia since 2016, reflecting optimism in the digital banking industry's prospects. Digital banks offer flexible services accessible online, in line with the digital habits of Generation Z, providing ease and convenience in managing their finances (Hartono et.al, 2023).

In the integration of the Theory of Planned Behavior (TPB) into this study offers a strong foundation for comprehending and forecasting personal behavior. Concepts like attitudes, subjective standards, and perceived behavioral control are all included. TPB offers a comprehensive perspective on the factors influencing human behavior. This enables researchers, marketers, and practitioners to design more effective interventions tailored to various contexts, including health, social capital, education, and marketing. Overall, TPB serves as a valuable tool for understanding and managing human behavior in everyday life situations, contributing to the development of strategies aimed at promoting positive behavioral change. Technology Acceptance Model (TAM) offers a valuable framework for understanding and facilitating technology adoption and usage among users.

Sugiyono (2019) stated that a hypothesis is a provisional answer to research questions that are the formulation of research problems. By referring to the framework of thought that has been explained by the researcher, the hypothesis of this study can be formulated as follows:

H1: Financial Literacy affects Financial Inclusion.
H2: Digital Literacy Affects Financial Inclusion
H3: Social Capital Affects Financial Inclusion
H4: Financial Literacy mediated by ease of use affects financial inclusion
H5: Digital Literacy Mediated by Ease of Use Affects Inclusion finance
H6: Inclusion finance is impacted by social capital mediated via usability
H7: Knowledge of finance. Convenience as a mediator between social capital digital literacy and financial inclusion is simultaneously impacted by the use.

II. RESEARCH METHOD

Each month A quantitative method was taken in conducting a descriptive causal study. This study examined a variety of variable types, including Digital Literacy (X2), Social Capital (X3), Financial Inclusion (Z), Ease of Use (Y), and Financial Literacy (X1). The original data that were analyzed were acquired. TAM offers insights that help firms design and implement technology more successfully by taking into account factors including perceived usefulness, usability, social impact, and user experience. With the help of this thorough understanding, user-centric technology solutions that suit their wants and preferences can be developed, which eventually raises adoption rates and enhances technology use. Furthermore, TAM helps businesses make strategic decisions about technology development and use that improve productivity and lower failure rates. All things considered, TAM is an essential instrument for the effective incorporation of technology into diverse

This research aims to uncover the influence of determining factors such as financial literacy, digital literacy, and social capital on digital bank financial inclusion, considering the mediating role of ease of use. supplemented by the research on the Influence of Digital Literacy on Financial Inclusion conducted by Nabila Anugrah Dea (2021), and complemented by the research with a deeper understanding of how technology, the surrounding environment, and attitudes have shaped financial behavior, it is hoped to better plan efforts to improve financial inclusion, especially for Generation Z in Bandung City. Conducted by Natalia, MA, Kurniasari, F., Hendrawaty, E., & Based on the study results from several previous researches on the Influence of Financial Literacy on Financial Inclusion by Dahrani, D., Saragih, F., & Ritonga, P. (2022) and Kerthayasa, I. W., & Darmayanti, N. P. A. (2023), Oktaviani, VM (2020) regarding the Influence of Social Capital on Financial Inclusion, the author conducts an update in terms of the research framework, addition of variables, and utilization of grand theory as a reference to strengthen the framework and hypotheses to be tested.

The explanation provided above allows for the following structure of the study's conceptual framework

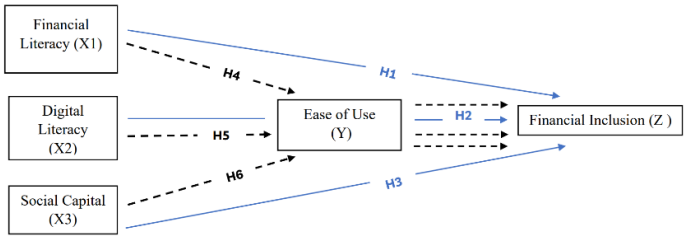

Figure 1. Framework of Though

From responses to questionnaires distributed to 200 digital bank users residing in Bandung, in addition to secondary material from books, literature reviews, and earlier research. It was statistical analysis. The Hair et al. formula was used to determine the sample size after the sample was gathered using probability sampling in conjunction with the simple random sampling approach. calculated for the outer model, inner model, and hypothesis testing using SmartPLS 4.0, and was carried out to address causal analysis through hypothesis testing utilizing the SEM-PLS approach and IBM SPSS to obtain simultaneous hypothesis results (7)

III. RESEARCH RESULT

The SEM-PLS Analysis Results

Evaluation of the Measurement Model (Outer Model)

The purpose of evaluating the outer model is to assess validity though convergent validity and discriminant validity, as the reliability of the model (Indrawati, 2015).

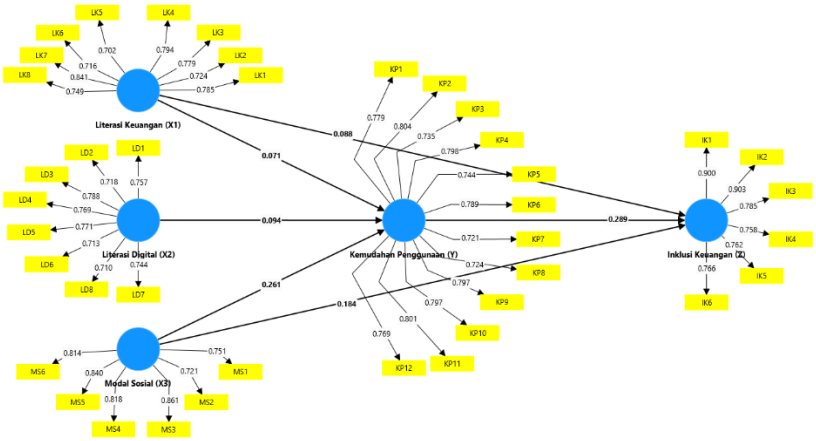

Figure 2. Results of the SmartPLS 4.0 Algorithm
Source: Output Processing with SmartPLS 4.0

Convergent validity

Convergent validity testing is conducted for each indicator of the construct. An indicator is considered valid if its value is more than 0.70, while loading values between 0.50 and 0.60 are deemed to be appropriate [17].

Table 1. Results of Convergent Validity Testing

	Financial Inclusion	Ease of Use	Digital Literacy	Financial Literacy	Social Capital
FI1	**0,900**				
FI2	**0,903**				
FI3	**0,785**				
FI4	**0,758**				
FI5	**0,766**				
FI6	**0,766**				
EU1		**0,779**			
EU10		**0,797**			

EU11		**0,801**			
EU12		**0,769**			
EU2		**0,804**			
EU3		**0,735**			
EU4		**0,798**			
EU5		**0,744**			
EU6		**0,789**			
EU7		**0,721**			
EU8		**0,724**			
EU9		**0,797**			
DL1			**0,757**		
DL2			**0,718**		
DL3			**0,788**		
DL4			**0,769**		
DL5			**0,771**		
DL6			**0,713**		
DL7			**0,710**		
DL8			**0,744**		
FL1				**0,785**	
FL2				**0,724**	
FL3				**0,779**	
FL4				**0,794**	
FL5				**0,702**	
FL6				**0,716**	
FL7				**0,841**	
FL8				**0,749**	
SC1					**0,751**
SC2					**0,721**
SC3					**0,861**
SC4					**0,818**
SC5					**0,840**
SC6					**0,814**

Source: Processed Output with SmartPLS 4.0

It is evident from the preceding table that all indicators of the research variables are declared valid, as the Outer Loadings values of each indicator are greater than 0.7. Therefore, the questionnaire items can be used in subsequent analyses.

Discriminant Validity

The correlations between variables are compared using the square root of AVE (√AVE) in the following analysis. If the correlation between the variables is less than the √AVE of each variable, the measurement model has strong discriminant validity. The Output Fornell Larcker Criterion of Smart-PLS 4.0, shown in Table 2, displays the √AVE values.

Table 2. Results of Discriminant Validity Test (Fornell-Larcker Criterion)

	Financial Inclusion	**Ease of Use**	**Digital Literacy**	**Financial Literacy**	**Social Capital**
Financial Inclusion	0,815				
Ease of Use	0,778	0,772			
Digital Literacy	0,704	0,615	0,747		
Financial Literacy	0,624	0,571	0,501	0,762	
Social Capital	0,740	0,698	0,591	0,533	0,802

Source: Processed Output with SmartPLS 4.0

The square root of the Average Variance Extracted (AVE) for each construct is larger than the correlation between any two constructs in the model, as can be seen from Table 2 above. Consequently, the computed model's constructs satisfy the requirements for discriminant validity. The Cross Loading analysis's findings are as follows:

Table 3. Cross Loading Results

	Financial Inclusion	Easy of Use	Digital Literacy	Financial Literacy	Social Capital
FI1	**0,899**	0,683	0,619	0,550	0,691
FI2	**0,903**	0,695	0,624	0,534	0,681
FI3	**0,784**	0,628	0,559	0,504	0,614
FI4	**0,758**	0,559	0,526	0,436	0,592
FI5	**0,765**	0,577	0,559	0,471	0,457
FI6	**0,766**	0,647	0,547	0,547	0,560
EU1	0,643	**0,779**	0,546	0,513	0,595
EU10	0,591	**0,797**	0,418	0,405	0,537
EU11	0,555	**0,801**	0,418	0,438	0,491
EU12	0,529	**0,769**	0,411	0,430	0,476
EU2	0,633	**0,804**	0,515	0,470	0,576
EU3	0,589	**0,735**	0,485	0,471	0,552
EU4	0,611	**0,798**	0,505	0,453	0,555
EU5	0,619	**0,744**	0,505	0,430	0,545
EU6	0,660	**0,789**	0,504	0,426	0,589
EU7	0,492	**0,721**	0,391	0,413	0,456
EU8	0,576	**0,724**	0,448	0,332	0,552
EU9	0,666	**0,798**	0,514	0,487	0,516
DL1	0,570	0,484	**0,762**	0,439	0,506
DL2	0,548	0,465	**0,724**	0,377	0,443
DL3	0,563	0,437	**0,795**	0,437	0,494
DL4	0,489	0,412	**0,772**	0,319	0,461
DL5	0,564	0,445	**0,776**	0,444	0,483
DL6	0,462	0,488	**0,701**	0,280	0,389
DL7	0,516	0,469	**0,736**	0,341	0,372
DL8	0,475	0,469	**0,701**	0,337	0,372
FL1	0,530	0,442	0,400	**0,785**	0,448
FL2	0,512	0,444	0,405	**0,724**	0,417
FL3	0,468	0,394	0,392	**0,779**	0,355
FL4	0,554	0,475	0,368	**0,794**	0,367
FL5	0,491	0,495	0,419	**0,702**	0,420
FL6	0,381	0,401	0,349	**0,716**	0,386
FL7	0,402	0,396	0,347	**0,841**	0,426
FL8	0,412	0,398	0,353	**0,749**	0,420
SC1	0,601	0,603	0,435	0,507	**0,751**
SC2	0,445	0,465	0,331	0,453	**0,721**
SC3	0,570	0,522	0,458	0,424	**0,861**
SC4	0,645	0,602	0,567	0,438	**0,818**
SC5	0,630	0,564	0,518	0,377	**0,840**
SC6	0,636	0,582	0,501	0,375	**0,814**

Source: Processed Output with SmartPLS 4.0

Heterotrait-Monotrait Ratio (HTMT)

Table 4. Heterotrait-Monotrait Ratio (HTMT)

	Financial Inclusion	Ease of Use	Digital Literacy	Financial Literacy	Social Capital
Financial Inclusion					
Ease of Use	**0,842**				
Digital Literacy	**0,787**	**0,670**			
Financial Literacy	**0,686**	**0,614**	**0,556**		
Social Capital	**0,818**	**0,757**	**0,657**	**0,599**	

Source: Processed Output with SmartPLS 4.0

Meanwhile, the acceptable threshold for discriminant validity is also obtained by observing the HTMT values, which should be less than 0.90 as suggested by (Hair et al., 2017). All HTMT values are lower than 0.9.

Average Variance Extracted (AVE), Composite Reliability, and Cronbach's Alpha

By correcting for error levels, the AVE value serves to quantify the degree of variation of a construct component derived from its indicators. It is more important to test using AVE values than composite reliability. A minimum of 0.50 is advised for the AVE value. In Table 5, the AVE output from Smart PLS 4.0 is displayed. The last stage in assessing the outer model is to examine the model's dependability to make sure there are no problems with measurements. Cronbach's Alpha indications and Composite Reliability are used in reliability testing. The instrument's dependability in a research model is tested using Composite dependability and Cronbach's Alpha testing. A concept is considered to have strong reliability if all latent variable values have Composite Reliability and Cronbach's Alpha values ≥ 0.70. This indicates that the questionnaire employed in this study has been consistent (Hartono et.al, 2023).

Table 5. Results of Average Variance Extracted (AVE), Composite Reliability, and Cronbach's Alpha Testing

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted
Financial Inclusion	**0,897**	**0,922**	**0,664**
Ease of Use	**0,938**	**0,947**	**0,596**
Digital Literacy	**0,886**	**0,910**	**0,558**
Financial Literacy	**0,897**	**0,917**	**0,581**
Social Capital	**0,889**	**0,915**	**0,644**

Source: Processed Output with SmartPLS 4.0

Based on the table above, it can be observed that the AVE values are greater than 0.50, indicating that all indicators meet the established criteria and have potential reliability for further testing. Additionally, the results of the same table display good results for Cronbach's Alpha testing and Composite Reliability. Because all latent variables have Composite Reliability and Cronbach's Alpha values ≥ 0.70, they are all considered trustworthy. Thus, it can be said that the study's questionnaire is dependable and consisten

Structural Model Testing (Inner Model)

Testing the structural model (inner model) comes next, if the estimated model satisfies the requirements of the outer model. In order to assess the impact of exogenous and endogenous factors as specified in the conceptual framework, an inner model testing procedure entails creating a concept-based model based on the theoretical framework. The following stages are used to test the structural model, also known as the inner model. Model testing procedure entails creating a concept-based model based on the theoretical framework. The following stages are used to test the structural model, also known as the inner model.

Table 6. Results of Model Testing

	Saturated Model	Estimated Model
SRMR	0,074	0,074
d_ULS	4,452	4,452
d_G	3,145	3,145
Chi-Square	2884,331	2884,331
NFI	0,617	0,617

Source: Processed Output with SmartPLS 4.0

The NFI value, ranging from 0 to 1, is derived from comparing the hypothesized model with a specific independent model. Based on the table above, the NFI value is 0.585, indicating a good fit for the model. (Ghozali, 2014).

Result of R-Square (R^2)

Observing the R-Square values serves as a test for themodel's goodness of fit.

Table 7. Results of R-Square Testing (R^2)

	R Square	R Square Adjusted
Financial Inclusion	0,743	0,737
Ease of Use	0,580	0,574

Source: Processed Output with SmartPLS 4.0

The R-Square value of 0.743 indicates that the model can explain 74.3% of the variability in Financial Inclusion. This suggests that the model has a good predictive ability for Financial Inclusion. The R-Square value of 0.580 indicates that the model can explain 58% of the variability in User Convenience. This suggests that the model has a good predictive ability for User Convenience.

Effect Size (f^2)

F-Square values indicate the magnitude of the partial effect of each predictor variable on the endogenous variable. Here's the interpretation of the f-Square values (Ghozali, 2014):

1) *If $F^2 \geq 0.35$, it can be interpreted that the latent predictor variable has a strong influence.*
2) *If F^2 between 0.15 and 0.35, it has a medium influence*
3) *If F^2 value is between 0.02 and 0.15, it has a weak influence.*
4) *Below are the f2 values for each exogenous variable on the endogenous variable.*

Tabel 8. Results of Effect Size Testing (f^2)

	Financial Inclusion	Ease of Use
Financial Inclusion	**0,196**	
Digital Literacy	0,141	0,089
Financial Literacy	0,060	0,071
Social Capital	0,122	**0,263**

Source: Processed Output with SmartPLS 4.0

Here is the interpretation of the f-square (f2) values for each model:

Impact on Financial Inclusion

1. Digital Literacy:
   An f² value of 0.141 indicates that Digital Literacy has a weak influence on Financial Inclusion. Although its impact is not strong, digital literacy still contributes to improving access to and usage of financial services.
2. Financial Literacy:
   An f² value of 0.060 suggests that Financial Literacy has a weak influence on Financial Inclusion. This means that improvements in financial literacy contribute only marginally to enhancing financial inclusion.
3. Social Capital:
   An f² value of 0.122 indicates that Social Capital has a weak to moderate influence on Financial Inclusion. Despite not being dominant, social capital assists in increasing access to financial services through social support and networks.
4. Financial Inclusion:
   An f² value of 0.196 shows that Financial Inclusion has a moderate influence on itself. This indicates that financial inclusion can significantly be influenced by internal factors within the financial system

Impact on Ease of Use

1. Digital Literacy:
   An f² value of 0.089 suggests that Digital Literacy has a weak influence on Ease of Use. Although its impact is not strong, digital literacy still plays a role in making financial services more user-friendly.
2. Financial Literacy:

An f^2 value of 0.071 indicates that Financial Literacy has a weak influence on Ease of Use. This means that improvements in financial literacy slightly help individuals in using financial services more easily.

3. Social Capital:
   An f^2 value of 0.263 suggests that Social Capital has a moderate influence on Ease of Use. This indicates that strong social networks can significantly make financial services more accessible and user-friendly.

Q-Square (Goodness of Fit Model)

Predictive relevance (Q^2) is used in the inner model's structural testing for model goodness of fit. The predictive significance of the model is shown by a Q-Square score larger than 0. The following computations show the study's endogenous variable R-Square values are as follows:

Table 9. Results of Q-Square Testing

	SSO	SSE	Q^2 (=1-SSE/SSO)
Financial Inclusion	1200,000	617,762	0,485
Ease of Use	2400,000	1593,775	0,336
Digital Literacy	1600,000	1600,000	
Financial Literacy	1600,000	1600,000	
Social Capital	1200,000	1200,000	

Source: Processed Output with SmartPLS 4.0

Q^2 the model can account for 48.5% of the variability in Financial Inclusion. This suggests that the model has a reasonably good predictive capability for Financial Inclusion. A Q^2 value of 0.336 indicates that the model can explain 33.6% of the variability in Ease of Use. This suggests that the model has a reasonably good predictive capability for Ease of Use.

Hypothesis Testing Results (Path Coefficient Estimation)

The route effect in the structural model ought to have an estimated value that is substantial. The bootstrapping process may be used to determine this significance value. We examine the coefficient of the parameter value and the t-statistic's significance in the report of the bootstrapping process to ascertain the importance of a hypothesis. We compare the computed t-statistic (t-statistic) with the significance of the t-table result at alpha 0.05 (5%) equals 1.96.

Tabel 10. Results of Hypothesis Testing for the Structural Model

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Financial Inclusion -> Ease of Use	0,347	0,345	0,100	3,451	**0,001**
Digital Literacy -> Financial Inclusion	0,256	0,256	0,065	3,950	**0,000**
Digital Literacy -> Ease of Use	0,250	0,242	0,070	3,576	**0,000**
Financial Literacy -> Financial Inclusion	0,158	0,157	0,058	2,722	**0,007**
Financial Literacy -> Ease of Use	0,213	0,214	0,062	3,407	**0,001**
Social Capital -> Financial Inclusion	0,263	0,264	0,090	2,906	**0,004**
Social Capital -> Ease of Use	0,437	0,445	0,082	5,309	**0,000**

Source: Processed Output with SmartPLS 4.0

Hypothesis Testing Results for the Structural Model:

1. Financial Inclusion -> Ease of Use
   The findings, which include an Original Sample (O) value of 0,347, Sample Mean (M) of 0,345, Standard Deviation (STDEV) of 0.100, T Statistics of 3.451, and P Values of 0.001, demonstrate that Financial Inclusion possesses a positive and substantial influence on Ease of Use. This implies that more Financial Inclusion will lead to a notable improvement in Ease of Use, suggesting that those who have easier access to financial services typically find them more user-friendly.
2. Digital Literacy -> Financial Inclusion

With an Original Sample (O) value of 0,256, Sample Mean (M) of 0,256, Standard Deviation (STDEV) of 0.065, T Statistics of 3.950, and P Values of 0.000, digital literacy has a positive and significant influence on financial inclusion. This implies that an individual's financial inclusion will improve with increased digital literacy. Stated differently, those with greater proficiency in utilizing digital technology typically enjoy greater access to financial services.

3. Digital Literacy -> Ease of Use
   A favorable and substantial impact of digital literacy is also seen in ease of use, with Original Sample (O) = 0,250, Sample Mean (M) = 0,242, Standard Deviation (STDEV) = 0.070, T Statistics = 3.576, and P Values = 0.000. This means that financial services will be simpler to use for people who are more digitally literate. Understanding and using digital financial services is made easier for people who are digitally literate.
4. Financial Literacy -> Financial Inclusion
   With an Original Sample (O) value of 0,158, Sample Mean (M) of 0,157, Standard Deviation (STDEV) of 0.058, T Statistics of 2.722, and P Values of 0.007, Financial Literacy demonstrates an important and favorable influence on Financial Inclusion. This implies that a person's financial inclusion will improve with an improvement in their financial literacy. The likelihood of using and accessing accessible financial services is higher among those who comprehend fundamental financial concepts.
5. Financial Literacy -> Ease of Use
   A positive and substantial correlation has also been observed between financial literacy and ease of use, as evidenced by Original Sample (O) values of 0,213, Sample Mean (M) values of 0,214, Standard Deviation (STDEV) values of 0.062, T Statistics of 3.407, and P Values of 0.001. This suggests that using financial services will be simpler for those with more financial knowledge. They can use these services more effectively if they have a greater grasp of financial goods and services.
6. Social Capital -> Financial Inclusion
   With an Original Sample (O) value of 0,263, a Sample Mean (M) of 0,264, a Standard Deviation (STDEV) of 0.090, a T Statistics of 2.906, and P Values of 0.004, Financial Inclusion is greatly and favorably impacted by social capital. This implies that having strong social networks increases the likelihood of having access to financial services for an individual. Social networks can offer tools and educational support that help promote financial inclusion.
7. Social Capital -> Ease of Use
   Aside from its positive and substantial impact on Ease of Use, Social Capital also has an Original Sample (O) value of 0,437, Sample Mean (M) of 0,445, Standard Deviation (STDEV) of 0.082, T Statistics of 5.309, and P Values of 0.000.

According to this, financial services will be simpler to utilize for people with greater social capital. Financial services may be used more easily and effectively with the help of strong social networks, which can offer information and support.

Table 11. Results of hypothesis testing with indirect influence

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P-Values
Digital Literacy -> Ease of Use -> Financial Inclusion	0,087	0,082	0,032	2,716	**0,007**
Financial Literacy -> Ease of Use -> Financial Inclusion	0,074	0,076	0,037	1,993	**0,047**
Social Capital -> Ease of Use -> Financial Inclusion	0,152	0,155	0,057	2,649	**0,008**

Source: Processed Output with SmartPLS 4.0

After indirect influence was analyzed, the following was discovered:

1. Digital Literacy -> Ease of Use -> Financial Inclusion
   The analysis results indicate that digital literacy has a significant indirect effect on financial inclusion through ease of use. The values are as follows: Original Sample (O) = 0.087, Sample Mean (M) = 0.082, Standard Deviation (STDEV) = 0.032, T Statistics = 2.716, and P Values = 0.007. This indicates that improving digital literacy can enhance the ease of use of financial services, which in turn will improve financial inclusion. In other words, an

individual's ability to use digital technology will facilitate their utilization of financial services, subsequently increasing their access to these services.

2. Financial Literacy -> Ease of Use -> Financial Inclusion

   Through ease of use, financial literacy also has a major indirect impact on financial inclusion, with the following values: T Statistics = 1.993, Original Sample (O) = 0.074, Sample Mean (M) = 0.076, Standard Deviation (STDEV) = 0.037 and P Values = 0.047. This shows that enhancing financial literacy can improve the ease of use of financial services, which then boosts financial inclusion. This implies that a good understanding of financial concepts makes financial services easier to use, ultimately increasing access to these services.

3. Social Capital -> Ease of Use -> Financial Inclusion

   Social capital has a vital role in indirect impact on inclusiveness of finance through ease of use, with the following values: Original Sample (O) = 0.152, Sample Mean (M) = 0.155, Standard Deviation (STDEV) = 0.057, T Statistics = 2.649, and P Values = 0.008. This suggests that increasing social capital can enhance the ease of use of financial services, which in turn will improve financial inclusion. Strong social capital provides a support network that can help individuals access and utilize financial services more efficiently, thereby increasing their access to these services.

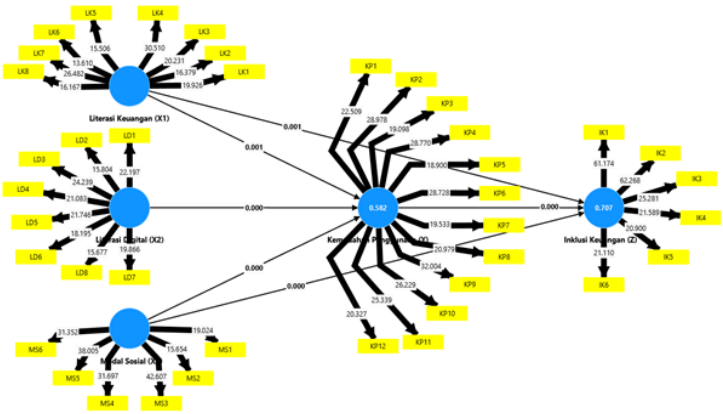

Figure 3. Bootstrapping Test Results
Source: Output from Processing with smartPLS 4.0

Table 12. F-Test Results for Simultaneous Influence

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1502,010	3	500,670	95,787	,000[b]
	Residual	1024,470	196	5,227		
	Total	2526,480	199			
a. Independent Variable: X3, X1, X2						
b. Intervening Variable: Y						
c. Dependent Variable: Z						

Source: Output from Processing with SPSS IBM

The F-test results show a significance value of 0.000, which is less than 0.05, based on the preceding table. This indicates that Z through Y are significantly impacted by X1, X2, and X3 taken together (simultaneously).

DISCUSSION

The bound test of both the linear and non-linear cointegration yields similar conclusion regarding the cointegration for most the industries except the rubber and computer industries where there is no evidence of linear cointegration, yet the NARDL test indicates significant non-linear cointegration. Also, for the apparel industry, there appears to be no linear cointegration but the nonlinear cointegration evidence is inconclusive. Generally, it can be concluded that long-run cointegration is essentially asymmetric in many industries. In the majority of non-durable industries, production shows non-linear long run relationships with the local and global business cycles. Our results of short-run symmetry corroborate the findings of Iqbal (2021) who found that only very few industries in the four Southeast Asian countries follow an asymmetric pattern. One reason for this apparent

similarity is that essentially the framework used by Iqbal (2021) involved the tests of only the short-run asymmetries since his regression modeled only the short-run changes and therefore devoid of the long-run information contained in the level of variables. The present study indicates that indeed inclusion of long-run information makes a difference in that at least half of all the industries show long-run asymmetric responses to both the local and global business cycles.

Overall findings indicate that the reactions of Singapore's manufacturing industries to local and global business cycles are not the same for all industries. Thus, imposing a linear reaction of industrial production to the business cycles may lead to model misspecification in at least half of all non-durable as well as durable industries, especially in the long-run model.

The results also indicate that industrial production growth can be significantly predicted from their past growth rates. In addition to history, some macroeconomic variables have predictive contents for many industries production. As per theoretical expectation durable goods generally have much higher interest elasticities of interest demand than non- durables that is observed in electrical, metal and metals products, and wood industries which are significantly interest rate sensitive. Most industries considered are also affected by global oil price changes. This is expected owing to the Singapore economy being globally integrated into the world economy. There is also evidence of the recent Covid19 crisis to negatively affect growth in the 'other transport' sector, whereas the textile sector actually gained during the crisis period.The results of cyclicality of Singapore's industrial appears to be similar to that reported earlier studies e.g., Konovalova and Maksimov (2017) for Russia, Petersen and Strongin (1996) for the US, and the panel data evidence by Iqbal (2021) for the Southeast Asian countries. However, except Iqbal (2021), the previous studies did not investigate the global business cycle sensitivities of the local industries. The empirical results in the present study highlight the effects of global economic cycle on manufacturing industries.

It can also be observed that forecasting ability of industries production is enhanced when the industries are found more cointegrated with the Singapore's local and global GDP growth.

CONCLUSIONS

a) This Financial Literacy influences Financial Inclusion

The path coefficient value for the influence of Financial Literacy on Financial Inclusion is 0.158 with a t-statistic value of 2.722 and a P-value of 0.007, indicating a significant influence.

b) Digital Literacy influences Financial Inclusion

The path coefficient value for the influence of Digital Literacy on Financial Inclusion is 0.256 with a t-statistic value of 3.950 and a P-value of 0.000, indicating a significant influence.

c) Social Capital influences Financial Inclusion

The path coefficient value for the influence of Social Capital on Financial Inclusion is 0.263 with a t-statistic value of 2.906 and a P-value of 0.004, indicating a significant influence.

d) Financial Literacy mediated by Ease of Use influences financial inclusion

The path coefficient value for the influence of Financial Literacy mediated by Ease of Use on Financial Inclusion is 0.213 with a t-statistic value of 3.407 and a P-value of 0.001, indicating a significant influence.

e) Digital Literacy mediated by Ease of Use influences financial inclusion

The path coefficient value for the influence of Digital Literacy mediated by Ease of Use on Financial Inclusion is 0.250 with a t-statistic value of 3.576 and a P-value of 0.000, indicating a significant influence.

f) Social Capital mediated by Ease of Use influences financial inclusion

The path coefficient value for the influence of Social Capital mediated by Ease of Use on Financial Inclusion is 0.437 with a t-statistic value of 5.309 and a P-value of 0.000, indicating a significant influence.

g) Financial Literacy, Digital Literacy, and Social Capital mediated by ease of use influence financial inclusion simultaneously

The F-test results indicate a significance value of 0.000, which is less than 0.05, indicating that Financial Literacy, Digital Literacy, and Social Capital through Ease of Use collectively have a significant influence on Financial Inclusion.

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