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Does Financial Technology Matter? Evidence from the Indonesia Healthcare Industry During the Covid-19 Pandemic

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Abstract

The Covid-19 pandemic has created various new restrictions, including restrictions on direct interaction in the administrative process of hospitals. In fact, the administrative process in Indonesian hospitals is still complex, not well organized, and has not used technology properly. This study aims to analyses the effect of financial technology (fintech) and financial literacy on the efficiency of the Indonesian healthcare industry during the Covid-19 pandemic era. This study uses a quantitative method with an online survey for data collecting. The purposive sampling was applied to get 225 respondents. The dependent variable is financial technology usage, which is measured through three perceptions of fintech users: perceived ease of use, perceived usefulness, and internet usage of all healthcare service users in the healthcare industry in Indonesia. The moderating variable adopted in this study is financial literacy, which is a combination of the understanding (knowledge), skills, attitude, and ability to make sound judgement and decision (behaviour) on personal financial matters resulting in individual financial well-being. This study uses the SEM (Structural Equation Modelling) method to analyses the efficiency of the healthcare industry. The study results show that perceived ease of use and perceived usefulness have an effect on fintech; fintech has a positive effect on efficiency, where financial literacy also strengthens the effect of fintech on efficiency in the Indonesia healthcare industry during the Covid-19 pandemic. The results of this study are expected to make a significant contribution to the development of the healthcare industry that currently becomes a top priority, given the urgency in handling public health, including Covid-19 patients. Additionally, this research provides a theoretical contribution by increasing fintech literacy in the healthcare industry in increasing efficiency during the Covid-19 pandemic. While practical contribution is about giving new insight to consider the technology in improving management process in healthcare industry.

Keywords

Covid-19, Financial technology, Efficiency, Financial literacy, Healthcare industry

JEL Classification

F64, F65, G, G01, G38

Introduction

Coronavirus disease (Covid-19) is a new virus that has infected all countries worldwide and is known as a deadly infectious virus. In Indonesia, the government of the Republic of Indonesia declared the Covid-19 pandemic as a national disaster on April 13, 2020 (BNPB, 2020). Since then, WHO and the government issued a policy to temporarily stop all out-of-home activities, including learning activities in schools, congregational worships, and work activities, and obligate people to wear masks, do swab/antigen tests, and abide by the physical distancing protocol for gathering or meeting events that involve many people (Fajrian, 2020).

Coronavirus disease has been defined as a long-term disaster called a pandemic that occurs worldwide (WHO, 2021). The impact on the decline in global economic performance stems from the unpreparedness of the healthcare

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industry in anticipating this sudden event. Therefore, the Covid-19 pandemic has become a lesson learned and a challenge for the healthcare system worldwide (WHO, 2021). Anxiety, disinformation, and physical distancing protocols are obstacles for the healthcare industry, as the frontline for the community, in providing optimal health services. The increasing number of deaths, both directly and indirectly, due to preventable and treatable diseases is one of the impacts of the healthcare system that is overwhelmed to cope with and accommodate the drastically increasing need for medical services. The biggest obstacle is the existence of a long queue which is very tiring for both the healthcare service providers and the patients being served. This all happened because patients could not access the needed services because of a lack of a supportive service system. The administrative and financial processes, including service procedures, are still manual and not integrated into an efficient, not easy-to-understand, and not friendly system (Erwin et al., 2017). As a result, decision-makers have to face a difficult choice to ensure that the handling of Covid-19 patients and other urgent health issues can be optimally addressed in the sense of prioritizing patient health while minimizing risks to healthcare workers and the community who treat them.

Along with the Covid-19 pandemic, industrial revolution 4.0 has introduced new technology into the business world, including the healthcare industry such as implementing of financial technology to improve administration process in healthcare industry. A number of financial institutions, including financial technology (fintech), have begun to provide financing in the healthcare sector (hospitals, suppliers of medical equipment, and the provision of social assistance by the private sector) to assist the government in restoring health and the Indonesian economy (IDX, 2021). Fintech that combines finance with technology is a key player in the industrial revolution 4.0 (Shen, Hu, & Hueng, 2018; Hau & Chang, 2021; Tu, Li, & Wang, 2021) as it can ease the healthcare industry to provide and facilitate the best health services for the society. Fintech has several target areas, including lending, such as peer-to-peer lending (P2P lending) and equity crowdfunding (ECF), payments, and enablers. Fintech is a new sector in the finance industry that incorporate the whole plethora of technology that is used in finance to facilitate trades, corporate business or interaction and services provided to the retail consumer (Erwin et al., 2017). Nowadays, Fintech has developed and has disruptive innovation such as Internet banking, mobile payments, crowdfunding, peer-to-peer lending, Robo-Advisory, and etc. (Arner, D., J. Barberis, 2015).

The Covid-19 pandemic has led to a surge in demand in the healthcare industry. The government has instructed service providers in the healthcare industry to contribute optimally in terms of helping the community in handling the Covid-19 outbreak (Mckinsey, 2020). The challenge of spreading Covid-19 through human media shows that the most urgent need right now is to deliver fast, reliable, and affordable health services. This is understandable because health problems will have a multiplier effect on the economy.

The technology enables the healthcare industry to collect relevant data and information quickly and accurately as well as allows communication between doctors and medical specialists to be safe and efficient through virtual channels to minimize the spread of Covid-19 (Ahmad et al., 2021). A very useful technology to be implemented in the healthcare industry is fintech to improve health services to the community. There is a stigma that the healthcare industry's administrative process and financial management seem complicated and long-winded with a long and tedious verification process. The presence of digital technology in the financial sector is expected to shorten the process; thereby, the operations of the healthcare industry are more effective and efficient (Mckinsey, 2020).

Fintech applications are becoming increasingly well-accelerated and financial literacy is also growing as expected. Therefore, financial literacy has an important role in achieving financial well-being. Financial literacy shows the ability to process economic information that helps make financial decisions. Furthermore, financial literacy is multi-dimensional, reflecting not only knowledge but also skills, attitudes, and behavior (Morgan et al., 2019). A better understanding of individual’s financial data could help healthcare professionals improve care (Inkster et al., 2019). If individuals do not understand financial principles, then they will not benefit from the increased access to fintech. This implies that the role of financial literacy is also highly considered in the operations of the healthcare industry.

Many previous studies have investigated the efficiency of hospital administration and management processes, one of which was carried out by Handayani et al. (2015) who used a knowledge management approach. These studies showed that the efficiency of hospital administration processes could be done with the help of technology. Moreover, research related to the implementation of fintech during the pandemic was conducted by Um et al. (2020) whose results revealed that the use of fintech increased during the Covid-19 pandemic. However, these studies have not thoroughly examined the impact on process efficiency and have not involved financial literacy. The present research intends to examine the acceptance and use of fintech with TAM theory to increase the healthcare industry's efficiency. TAM is as mature theory developed by Davis (1989) to examine the acceptance of new technology based on the benefits/functions and convenience of technology. Therefore, the novelties of the study are as follows. This study adds financial literacy in the effect of fintech on the efficiency of the healthcare industry in Indonesia. Therefore, the main objective of this study is to analyze the effect of fintech on the efficiency of the healthcare industry in Indonesia during the Covid-19 pandemic. Another important objective is to analyze the financial literacy moderation of the healthcare industry that strengthens the effect of fintech on the efficiency of the healthcare industry in Indonesia.

The need to explore fintech and efficiency has an impact on a company's decision-making process. So that, this

research aims to investigate the effect of fintech in increasing efficiency of healthcare in Indonesia with moderating role of financial literacy during covid-19 pandemic. There are two reasons that makes this study is very interesting. Firstly, the study was conducted in Indonesia. Similar research on the topic is still limited, but has been carried out in several countries, including India (Jeet & Kang, 2020), China (Shen et al., 2018), and America (Li et al., 2012). However, there has been almost no research that relates fintech to the healthcare industry (Inkster et al., 2019), especially for the industry in Indonesia. Secondly, there has been almost no research in Indonesia that analyzes financial literacy as a moderating variable on the effect of fintech on the efficiency of the healthcare industry during the Covid-19 pandemic. Thirdly, this study applies a theory of reasoned action to explain the mechanism of implementing fintech in improving the efficiency of the healthcare industry in Indonesia.

The results of this study are expected to be an essential and valuable reference for the healthcare industry, government, and society. This study is fascinating and can be used as a reference for future research and requires urgent investigation so that the level of efficiency in the healthcare industry can be met and services are more optimal and affordable, especially during the Covid-19 pandemic. The present study serves as a lens to photograph the problems in the healthcare industry related to the quality of health services and how fintech is applied in this industry, as well as how far the power of financial literacy is in bridging the effect of fintech on efficiency itself.

Literature Review

Theory of Reasoned Action

According to the Theory of Reasoned Action (TRA), individual behavior originates from beliefs about the behavior under consideration (Vanyushyn, 2008; Uçanok, Karabatı, 2013; Troudi, Bouyoucef, 2020; Shapoval, Agglund, Pizam, Abraham, Carlback, Nygren, 2021). The principle of TRA is to determine how individuals will behave based on their pre-existing attitudes and behavioral intentions, to distinguish between beliefs and attitudes, and to determine external stimuli, so that the TRA model determines user reactions and perceptions of information system technology which in turn will determine the user's attitudes and behavior. Or in other words, individuals tend to engage in certain activities because they believe that the activities have positive results.

TRA has been developed by Davis (1989) into a Technology Acceptance Model (TAM) emphasizing on perceived ease of use and perceived usefulness that can predict attitudes in using technology. TAM is a mature theory appropriate to measure user acceptance of new technologies and following the people behavior approach. Thus, TAM is theoretical framework that explain the user acceptance of technology and system. Perceived ease of use is the degree to which people believes that using a particular system would be effort. While perceived usefulness refers to the degree to which people believes that using a particular system would enhance his or her job performance. In fintech context, TAM can explain whether the fintech system used is acceptable to users. Both theories also influence decision-making of people in accepting a technology or system (Abbasi et al., 2021). This present study will investigate whether fintech can be accepted by fintech users in the Indonesia healthcare industry during the Covid-19 pandemic.

Financial Technology and Healthcare Industry

Fintech has several advantages compared to other financial institutions. Firstly, fintech increases the possibility of borrowing at lower interest rates and can speed up the loan application process (Fuster, Plosser, Schnabl, & Vickery, 2019; Rosavina, Rahadi, Kitri, Nuraeni, & Mayangsari, 2019; Sangwan, Harshita, Prakash, Singh, 2020). In addition, fintech has big data that can input more factors in assessing borrower's credit risk (Langley & Leyshon, 2017; Jagtiani & Lemieux, 2019), thus enabling a transparent, more accurate, and fast evaluation of borrower's credit risk. During the Covid-19 pandemic, governments in various countries, including Indonesia, have implemented social distancing preventive measures that have become obstacles for the healthcare industry in providing optimal health services. The second benefit of fintech is that it enables users to pay bills (rent, insurance, electricity, water and other utility costs, medical expenses, hospital fees, surgery, and inpatient and outpatient care, etc.) without having to go to the location and carry out lending transactions and credit evaluations without meeting physically. The Covid-19 pandemic is a health problem that can threaten human life and cause excessive anxiety and feelings of insecurity for most people due to infectious disease of corona virus.

The third benefit is that fintech can increase financial literacy (Ozili, 2018). Financial literacy has a critical role in the financial well-being aspect. It shows the ability to process economic information that helps make financial decisions. Furthermore, financial literacy is multi-dimensional, reflecting not only knowledge but also skills, attitudes, and behavior (Morgan *et al*., 2019). A better understanding of individual's financial data could help healthcare professionals improve care (Inkster, Loo, Mateen, & Stevenson, 2019). If individuals do not understand financial principles, then it is likely that they will not benefit from the increased access to fintech. This signifies that the role of financial literacy is also highly considered in the operations of the healthcare industry.

The fintech innovation as the urgent need of the industrial revolution 4.0 era in digitizing the healthcare industry during the Covid-19 pandemic (Mohammad, 2020). Fintech innovation is one of the strategies to increase the efficiency of the healthcare industry, which recently is at peak demand due to the explosion of Covid-19 patients who require immediate treatment. These days, the healthcare industry requires resource management not only for

the present but also for future demands so that the efficiency level of the healthcare industry can be met. Through good efficiency performance, health services and facilities will become more optimal and affordable so as to increase efficiency, especially during the Covid-19 pandemic. These efforts require collaboration between the government, primarily the Health Office and the Financial Services Authority (OJK) and the healthcare industry that includes all business units engaged in health-related sectors (hospitals, pharmacies, nutrition homes, counseling centers and integrated health services, polyclinics, public health centers, health laboratories, clinics, health insurance, medical device providers, medical personnel, and Covid-19 vaccine centers), and various other relevant supporting parties of patients, organizations, and communities. This research serves as a lens that will photograph the problems that exist in the healthcare industry related to the quality of health services and how fintech is applied in this industry as well as how far the power of financial literacy is in bridging the effect of fintech on efficiency itself. Financial technology usage is measured through three perceptions of fintech users, namely perceived ease of use, perceived usefulness, and internet usage of all health service users in the healthcare industry in Indonesia.

Perceived Ease of Use

Perceived ease of use is defined as "the degree to which a person believes that using a particular system would be free of effort" (Davis, 1989). If applied to fintech, it means that users believe that fintech is easy to use and does not require great effort to use it. Perceived ease of use can explain why users use technology and whether the new technology is acceptable to users (Davis, 1989). By adopting this theory, we can examine whether fintech is easy to use and acceptable to fintech users in the healthcare industry in Indonesia during the Covid-19 pandemic. Table 1. is initial scale items used to measure fintech related to perceived ease of use (Davis, 1989).

Table 1. Initial Scale Items for Perceived Ease of Use.

Item	Indicator
Confusing	I often become confused when using fintech.
Error Prone	I make errors frequently when using fintech.
Frustrating	I often become frustrated when interacting with fintech.
Dependence on Manual	I often need to read the user manual when using fintech.
Mental Effort	Interacting with fintech requires a lot of my mental effort.
Error Recovery	I find it easy to recover from errors encountered when using fintech.
Rigid & Inflexible	I consider fintech is rigid and inflexible to interact with.
Controllable	I find it easy to get fintech to do what I want it to do.
Unexpected Behavior	Fintech often behaves in unexpected ways.
Cumbersome	I find it cumbersome to use fintech.
Understandable	I understand fintech easily.
Ease of Remembering	I feel using fintech is easy to remember.

Hypothesis 1: *Perceived ease of use has a significant effect on financial technology usage in the healthcare industry in Indonesia during the Covid-19 pandemic*.

Perceived Usefulness

Davis (1989) defines perceived usefulness as "the degree to which a person believes that using a particular system would enhance his or her job performance". That is, users believe that using technology will improve performance. The usefulness aspect will form a trust for decision-making whether to use the new technology later. By applying this concept, we can examine whether fintech is useful so that fintech can be accepted by fintech users in the healthcare industry in Indonesia during the Covid-19 pandemic. Table 2. is the initial scale items used to measure fintech related to perceived usefulness Davis (1989).

Table 2. Initial Scale Items for Perceived Usefulness.

Items	Indicators
Job Difficult Without	My job would be hard to do without fintech.
Control Over Work	Fintech makes it easier for me to control my work.
Job Performance	Fintech improves my job performance.
Addresses My Needs	Fintech takes care of my work-related needs.
Saves Me Time	Fintech saves me time.

Work More Quickly	Fintech allows me to complete tasks faster.
Critical to My Job	Fintech supports important aspects of my work.
Accomplish More Work	Fintech allows me to get my job done better
Cut Unproductive Time	Fintech reduces time for non-productive activities.
Effectiveness	Fintech increases my effectiveness at work.
Quality of Work	Fintech improves the quality of work.
Increase Productivity	Fintech increases my productivity.

Hypothesis 2: *Perceived usefulness has a significant effect on financial technology usage in the healthcare industry in Indonesia during the Covid-19 pandemic*.

Internet Usage

This study includes internet usage to examine whether the fintech used in the healthcare industry is acceptable (Shen et al., 2018). Despite having an internet penetration rate of only 53.7% that is lower than many countries in the Asia Pacific, data on June 2019 showed that Indonesia is one of the countries with the highest number of internet users in the world with 171.26 million people, from the country's total population of more than 260 million people, are active internet users (Statista, 2020). Table 3. is the initial scale items used to measure fintech related to internet usage (Shen et al., 2018).

Table 3. Initial Scale Items for Internet Usage.

Items	Indicators
Online Duration	In a day, I often use the internet in my activities.
Internet Dependency	I use the internet to find information.
Third-party Payment	I tend to agree that the information obtained via the internet is useful in increasing knowledge and insight.

Hypothesis 3: *Internet usage has a significant effect on financial technology usage in the healthcare industry in Indonesia during the Covid-19 pandemic*.

Efficiency of the Healthcare Industry in Indonesia

Efficiency is defined as maximizing the use of all resources. In this study, efficiency is the maximization and utilization of all resources owned by the healthcare industry in Indonesia to achieve maximum output or, in other words, maximizing income by minimizing spending. The initial scale items used to measure efficiency in Table 4.

Table 4. Initial Scale Items for Efficiency.

Items	Indicators
Cost	Financial technology usage in health services reduces operating costs.
Cost	Healthcare costs are more efficient through fintech.
Revenue	Financial technology usage in the healthcare industry reduces queue times.
Revenue	Financial technology usage in the healthcare industry simplifies the financial administration process.

Hypothesis 4: *Financial technology usage has a significant effect on efficiency in the healthcare industry in Indonesia during the Covid-19 pandemic*.

Financial Literacy

Financial literacy refers to a combination of the understanding (knowledge), skills, attitude, and ability to make sound judgement and decision (behavior) on personal financial matters resulting in individual financial well-being (Shen et al., 2018). The International Network on Financial Education groups financial literacy into three components: knowledge, behavior, and attitude (Atkinson, 2012). While fintech is present as a new market that combines finance and technology (Arner & Barberis, 2015) and replaces traditional financial structures with new technology-based processes. Financial literacy will influence decisions about whether to use available financial products, which will have an impact on the business efficiency of fintech users. This means that if the healthcare industry has high financial literacy, financial technology usage will be more optimal, as seen by the efficiency of the healthcare industry. Table 5 is the initial scale items used to measure financial literacy.

Table 5. Initial Scale Items for Financial Literacy.

Items	Indicators
Understanding of financial concepts	I understand financial concepts in general.
Understanding the allocation of funds	I allocate my funds according to my needs.
Understanding the time value of money concept	I understand the time value of money concept.
Understanding the risk and return concept	I understand the risk and return concept.
Understanding the interest calculation concept	I understand how to calculate interest rates in investing.
Understanding the saving and investing concept	I understand the difference between saving and investing.
Understanding of the debt concept	I understand the mechanism in making loans/debts.
Understanding of insurance products	I understand insurance products and risk management against the unexpected.
Understanding of Emergency fund management	I provide a personal emergency fund.

Hypothesis 5: *Financial literacy strengthens the effect of financial technology on efficiency*.

Methods

The present study is quantitative research that analyzes the effect of using financial services on fintech, measured by the Technology Acceptance Model (TAM) and internet usage on the efficiency of the healthcare industry in Indonesia during the Covid-19 pandemic. Based on its objectives, this study is causal research because it aims to prove that fintech affects efficiency, which is strengthened by financial literacy in the healthcare industry in Indonesia during the Covid-19 pandemic. Based on its approach, this research is a positivist study that offers solutions to the problems faced by the healthcare industry in facing the challenges of the Covid-19 pandemic.

This study used primary data sources. The data was obtained by using a survey method with a questionnaire instrument to obtain the required primary data sources of information. While the sampling method is using proposive sampling with 225 respondents. Respondents were active users of fintech applications related to various services in the healthcare industry in Indonesia, including suppliers of clinical and herbal medicines, medical equipment, health workers, education and research institutions to train health workers, hospitals, health and nutrition clinics, health laboratories, vaccine centers, pharmacies and drug stores, health insurance, and health education centers (Bhatia, 2021) during the Covid-19 period. The population of this study was fintech application users who received health services in the healthcare industry in Indonesia. The measurement level in this study was the interval measurement level, where the distance or interval between numbers is the same and the zero-point is arbitrary. The measurement scale used was a 5-point Likert scale, where 1 means disagree and 5 means strongly agree. A nominal scale was used to identify respondents.

The dependent variable in this study is financial technology usage which is measured through three perceptions of fintech users: perceived ease of use, perceived usefulness, and internet usage of all health service users in the healthcare industry in Indonesia. The moderating variable is financial literacy which a combination of the understanding (knowledge), skills, attitude, and ability to make sound judgement and decision (behavior) on personal financial matters resulting in individual financial well-being. This study utilized SEM (Structural Equation Modeling) in analyzing the effect of fintech on the efficiency of the healthcare industry in Indonesia. The regression model to test the five hypotheses of this research is as follows:

$$Fintech_{i,t} = \beta_{11} Usefulness_{i,t} + \varepsilon_{it} \quad (1)$$

$$Fintech_{i,t} = \beta_{21} Ease\ of\ use_{i,t} + \varepsilon_{it} \quad (2)$$

$$Fintech_{i,t} = \beta_{31} Internet\ usage_{i,t} + \varepsilon_{it} \quad (3)$$

$$Efficiency_{i,t} = \beta_{41} Fintech_{i,t} + \varepsilon_{it} \quad (4)$$

$$Efficiency_{i,t} = \beta_{51} Fintech_{i,t} + \beta_{52} Financial\ literacy_{i,t} + \beta_{53} Fintech * Financial\ literacy_{i,t} \varepsilon_{it} \quad (5)$$

Where $Usefulness_{it}$ is the usefulness aspect of fintech $Ease\ of\ use_{it}$ is the ease-of-use aspect of fintech, $Internet\ usage_{it}$ is the internet usage aspect of fintech, $Efficiency_{i,t}$ is efficiency, $Fintech_{i,t}$ is financial technology used in the operations of the healthcare industry, and $Financial\ literacy_{it}$ is the ability and knowledge of finance.

Results

Profile of Respondents

There were 300 questionnaires distributed and 225 respondents responded as internet users who had access to the healthcare industry. A total of 225 questionnaires obtained met the characteristics of the respondents on August 2021, which were then processed by Structural Equation Modeling (SEM). All respondents had the appropriate characteristics: internet users, had access to the healthcare industry, and used fintech to pay their bills. The results of processing respondents' data are presented in Table 6.

Table 6. Profile of Respondents.

Profile	Characteristics	%
Gender	Male	39%
	Female	61%
Age	< 25 years	35%
	26 - 35 years	42%
	36 - 45 years	5%
	> 46 years	18%
Marital Status	Married	42%
	Single	50%
	Divorced	3%
Education Level	Senior/Vocational High School	16%
	Diploma	1%
	Bachelor’s degree	59%
	Specialist/Master’s degree	20%
	Doctoral degree	5%
Current Occupation	Private employee	16%
	Self-employed	6%
	Professional	6%
	Civil servant	5%
	Others	66%
Business Line	Restaurant	43%
	Hotel	5%
	Media	3%
	Healthcare	17%
	Tourism	15%
	Others	16%
Monthly Income (IDR)	< 2 million	24%
	2 million - 4 million	18%
	4 million - 8 million	38%
	> 8 million	19%
Types of Health services	Healthcare worker, pharmacies, and drug stores	16%
	Health and nutrition clinic	19%
	Medical equipment	11%
	Hospitals and medical personnel, pharmacies and drug stores, and health insurance	38%
	Supplier of clinical and herbal medicines	15%
	health laboratory and health insurance	5%
Daily time spent using the internet	1 - 5 hour(s)	36%
	6 - 10 hours	10%
	> 10 hours	54%
What applications do you access in your smartphone besides phone activities	Social Media	85%
	Reading news/information	5%
	Health and nutrition clinic	10%
What fintech application features do you use	Digital Payment (GoPay, Ovo, and DANA)	80%
	Don’t use fintech	20%
What health application features do you use	Health insurance (BPJS Kesehatan and Alodokter)	19%
	Pharmacies, health clinics, hospitals, clinical and herbal treatment places	14%
	Consultation (Halodoc, klikdokter, go-doc, and prosehat), Health insurance (BPJS Kesehatan and Alodokter)	51%

Profile	Characteristics	%
	None, usually look for health info directly via browser	1%
	Clinical laboratories (Pramita, Parahita, Sima, and Prodia)	17%
How many times do you use fintech applications in a week	1 - 2 time (s)	5%
	3 - 5 times	21%
	6 - 8 times	32%
	> 8 times	41%

Fig 1. presents the conceptual framework of this study with perceived ease of use, perceived usefulness, and internet usage as the antecedent factors; financial technology (fintech) and financial literacy as the independent variables: and efficiency as the dependent variable.

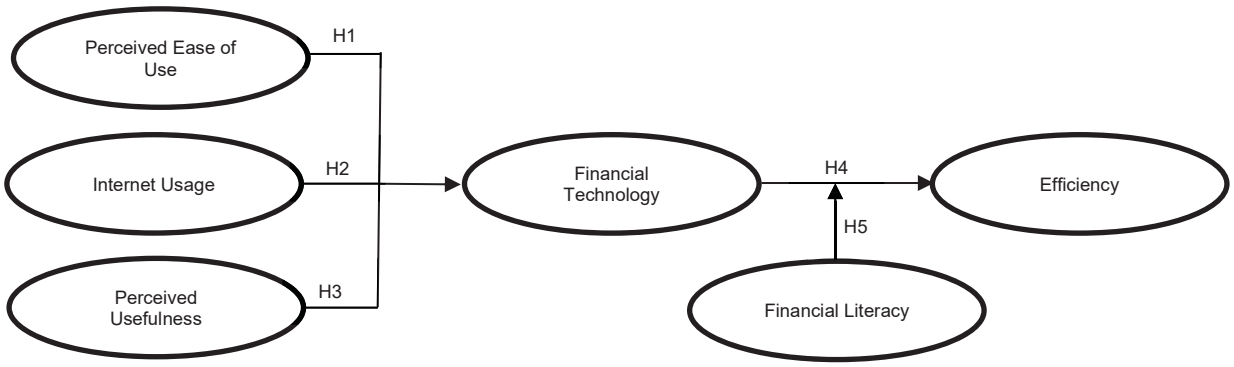

Fig 1. Conceptual Framework.

Based on Fig 1, two models were created to carry out Multivariate Regression Analysis to analyze the data. In the first model, the independent variables are perceived ease of use, perceived usefulness, internet usage, the moderating variable is financial literacy, and the dependent variable is financial technology. In the second model, the independent variables are financial technology and financial literacy, and the dependent variable is efficiency. Reliability is measured using Cronbach's alpha, and values ranged from 0.797 to 0.958, exceeding the minimum recommended level of 0.700. These values are shown in Table 7 and Fig 2.

Table 7. Reliability analysis of the questionnaire items.

Construct	Items	Loading	Composite Reliability	Average Variance Extracted (AVE)	Cronbach's Alpha
Perceived Ease of Use	PEU1	0.795	0.905	0.614	0.876
	PEU3	0.792			
	PEU4	0.798			
	PEU6	0.737			
	PEU7	0.780			
	PEU8	0.799			
Perceived Usefulness	PU1	0.812	0.963	0.686	0.958
	PU2	0.843			
	PU3	0.862			
	PU4	0.866			
	PU5	0.683			
	PU6	0.855			
	PU7	0.836			
	PU8	0.826			
	PU9	0.763			
	PU10	0.883			
	PU11	0.847			
	PU12	0.845			
Internet Usage	IU1	0.847	0.882	0.715	0.797
	IU2	0.911			
	IU3	0.773			
Financial Technology Usage	FTU1	0.791	0.899	0.692	0.851
	FTU2	0.816			
	FTU3	0.894			
	FTU4	0.823			
Financial Literacy	FL1	0.824	0.897	0.685	0.846
	FL2	0.873			

Construct	Items	Loading	Composite Reliability	Average Variance Extracted (AVE)	Cronbach's Alpha
	FL3	0.775			
	FL4	0.836			
Efficiency	E1	0.817	0.894	0.679	0.845
	E2	0.800			
	E3	0.811			
	E4	0.866			

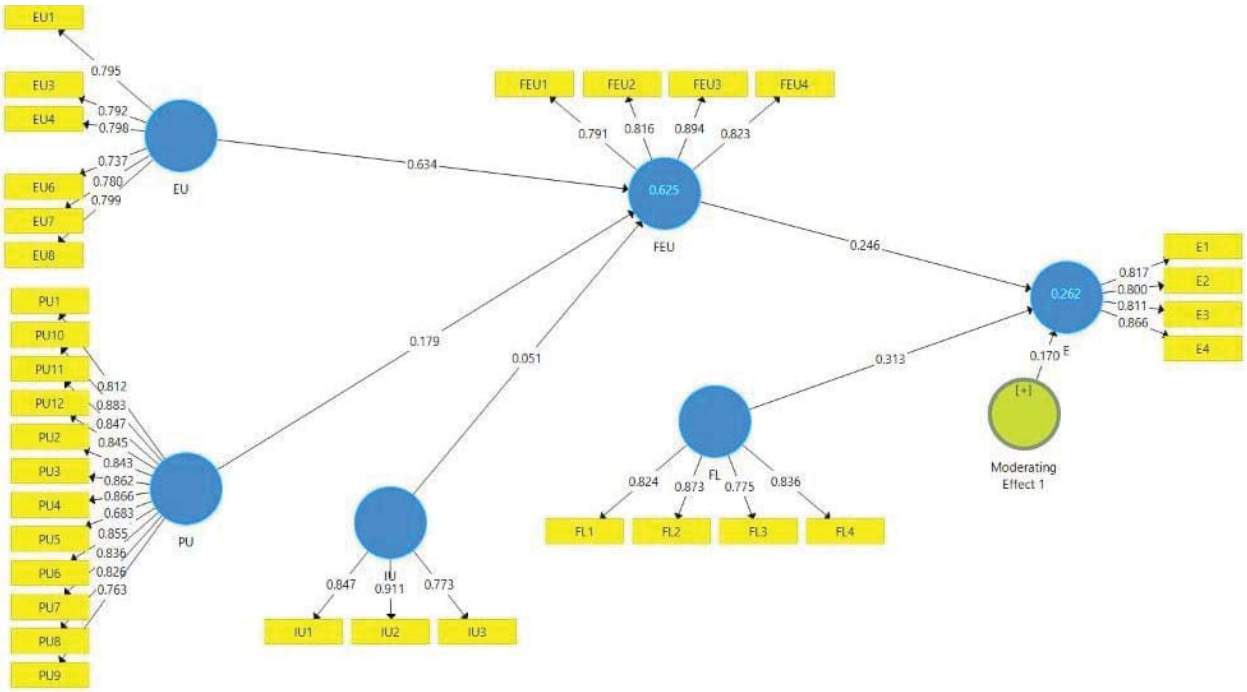

Fig 2. Construct's factor loading of SEM-PLS result.

Pearson's correlation was implemented to explore the correlation between the dependent and independent variables. Table 8. exhibits the Pearson correlation analysis values.

Table 8. Correlation matrix.

Variable	Efficiency	Ease of Use	Financial Technology	Financial Literacy	Internet Usage	Perceived Usefulness
Efficiency	0.824					
Ease of Use	0.456	0.784				
Financial Technology	0.391	0.779	0.832			
Financial Literacy	0.394	0.474	0.376	0.828		
Internet Usage	0.263	0.423	0.368	0.404	0.845	
Perceived Usefulness	0.426	0.689	0.630	0.373	0.275	0.828

Based on the results presented in Table 9 and Fig 2, the beta value of perceived ease of use is 0.634 with a significance level of 0.000. Thus, perceived ease of use has a significant positive effect on fintech, meaning that H1 is supported. The beta value of perceived usefulness is 0.179 with a significance level of 0.059. Thus, perceived usefulness has a significant positive effect on fintech, meaning that H2 is supported. The beta value of perceived internet usage is 0.051 with a significance level of 0.420. Thus, internet usage is not significant for fintech, meaning that H3 is rejected. The beta value of fintech is 0.246 with a significance level of 0.004. The beta value of financial literacy is 0.496 with a significance level of 0.000. Thus, financial literacy has a significant positive effect on efficiency, meaning that H4 is supported. The beta value of fintech is 0.170 with a significance level of 0.039. Thus, financial literacy strengthens the positive effect of using fintech on efficiency, meaning that H5 is supported.

Table 9. Hypothesis testing.

Hypothesis	Relationship	Beta	t-value	p-value	Remarks

H1	PEU → FTU	0.634	7.207	0.000	Significant
H2	PU → FTU	0.179	1.823	0.059	Significant
H3	IU → FTU	0.051	0.806	0.420	Not significant
H4	FTU → E	0.246	2.861	0.004	Significant
H5	FTU*FL →E	0.170	2.067	0.039	Significant

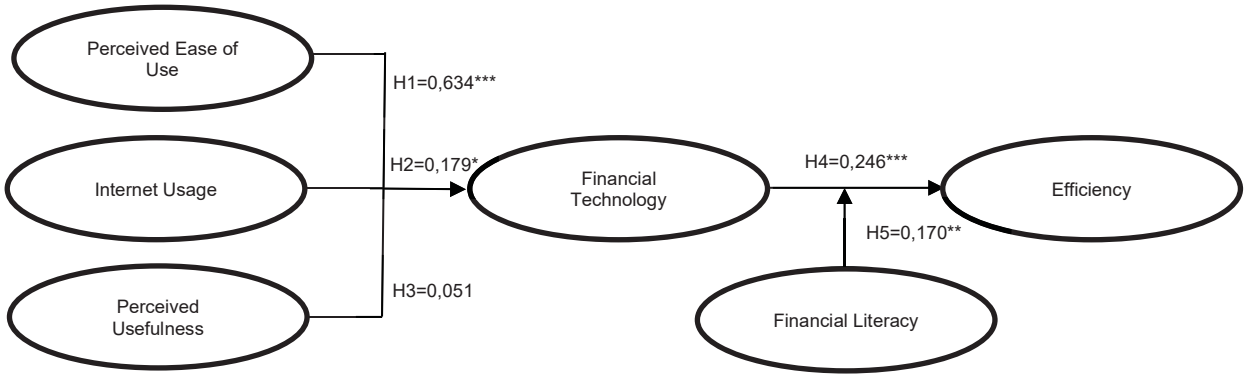

Fig 2. Results for direct effects.

Discussion

Perceived ease of use and fintech usage

This study finds that perceived ease of use is associated with fintech usage; this finding proves that the use of technology and system is influenced by a person's degree of ease in using it and can improve their performance. This is in line with the TAM theory that good technology that is acceptable to users and has a good level of convenience will increase a person's intention and behavior to use it (Davis, 1989). This supports the previous research conducted by Um et al. (2020). The results of this study prove that most respondents agree that fintech makes work easier, more useful, and can be completed in a shorter time. In terms of ease of use, fintech does not require special skills to run the application. Respondents who are younger and have a high education level agree with this. In this condition, users believe that fintech applications are easy to use; thereby, they do not need great effort or are not difficult to run. Perceived ease of use can explain the reasons users use technology and whether the new technology is acceptable to users (Kitsios & Giatsidis, 2021).

Perceived Usefulness and Fintech Usage

This study finds that perceived usefulness influences fintech usage, implying that the level of usability and benefits of fintech is a determining factor in using fintech. This is because if someone benefits from new technology, he will prefer to use it. his is in accordance with the TAM theory developed by Davis (1989) the findings from a previous study said the more useful a technology would be, the more accepted it will be by users. In terms of usefulness, financial technology helps respondents in conducting transparent transactions. Fintech also provides various consulting services related to finance and investment to minimize losses. It has several advantages compared to other financial institutions. Firstly, fintech increases the possibility of borrowing at lower interest rates and can speed up the loan application process (Fuster, Plosser, Schnabl, & Vickery, 2019; Rosavina, Rahadi, Kitri, Nuraeni, & Mayangsari, 2019; Sangwan, Harshita, Prakash, Singh, 2020). In addition, fintech has big data that is able to input more factors in assessing borrower's credit risk (Langley & Leyshon, 2017; Jagtiani & Lemieux, 2019) thus enabling a transparent, more accurate, and fast evaluation of borrower's credit risk. These advantages can help the healthcare industry in serving quickly to provide emergency healthcare at the right time. "Goena" and "KoinSehat" are examples of fintech engaged in the P2P Lending sector that collaborates with hospitals by providing loans for all hospital employees or healthcare workers and assisting the community in getting access to better healthcare facilities through an easy and affordable financing system. The mechanism is that prospective patients, both healthcare workers and the public, pay down payments and apply for health loans; if approved, the loan will be inputted into the P2P fintech lending platform and then funded by thousands of investors who are members of the platform. If the healthcare financing is fully funded, prospective patients will enjoy various quality healthcare facilities at the hospital. The obligation of the borrower is to monthly pay the loan installments to the platform in a pre-agreed tenor. The program is expected to help ease the burden of funding needs for all hospital employees and the public in Indonesia because the process is very fast through funding from the community, which is returned to the community receiving the service itself in exchange for low interest. Additionally, the hospital has the advantage of avoiding the risk of not being able to serve patients who have financial constraints.

Internet usage and fintech

Internet usage has become a necessity in almost every aspect of people's lives. With the internet, many activities are diverted online to improve business performance. This is supported by the rapidly developing fields of life that take advantage of current technological developments. During the Covid-19 pandemic, the need for internet usage is also increasing, and various applications in the financial sector are emerging. Fintech as a technology solution in the financial sector is starting to develop. Therefore, internet usage was found not to affect fintech usage. This is because the internet has become a basic need for many people, so it is not a factor that affects someone in using fintech. According to the TAM theory, people consider perceived ease of use and perceived usefulness rather than internet usage in accepting and using technology (Davis, 1989). Respondent's familiarity with internet usage is significant in terms of acceptance of financial technology in the everyday world. A positive effect is not significant because 85% of respondents used social media when using the internet. While the rest were respondents who used online paid applications.

Fintech Usage and efficiency

This study finds that the usage of fintech increase the efficiency in healthcare industry especially in administration and management process. This result support previous paper, mention that the use of fintech could shorten the administration flowchart and cut the expenses (Handayani et al., 2015). One of the benefits of using financial technology is to enable respondents and healthcare workers to provide health services without having to go to the location. Respondents do not need to physically come to the location or the money transaction machine. During the Covid-19 pandemic, governments in various countries, including Indonesia, have implemented social distancing preventive measures that have become obstacles for the healthcare industry in providing optimal health services. The second benefit of fintech is that it enables users to pay bills without having to go to the location and conduct lending transactions and credit evaluations without meeting physically. The Covid-19 pandemic is a health problem that can threaten human life and cause excessive anxiety and feelings of insecurity for most people. In this context, the role of health insurance becomes vital to mitigate these risks. The increasing use of insurance accompanied by social distancing restriction makes people use fintech to pay for their health insurance. In addition, fintech facilitates transactions during the Covid-19 pandemic because most public and private services are closed (Al, 2020). Payments for hospital or health services transactions such as health checks, operations, inpatient care, the ICU and MCU, and other medical treatments carried out manually are becoming increasingly complicated during this Covid-19 pandemic. This ultimately causes significant problems for the healthcare industry and society. The presence of fintech can guarantee a faster, safer, more convenient, simple, inexpensive, and transparent transaction so that the flow of funds can be seen clearly. Fintech will reduce the financial risk in its operations. From the first and second benefits, fintech can make the healthcare industry more efficient in carrying out its operations so that the benefits are optimal.

Fintech, Financial Literacy, and Efficiency

This study also proves that respondents with previous financial knowledge have high self-efficacy. In this case, the financial knowledge the respondent has is the basis that makes it easier for the respondent to understand the economic value of the fintech application used in healthcare services. This finding is in line with Panos & Wilson (2020), which postulated that adequate financial literacy is needed in the operations of fintech. Respondents' financial literacy can increase efficiency without having to consult about finance and investment first. Financial literacy is not only about ability, but also skills, attitudes, and behavior (Panos & Wilson, 2020). Thus, it is increasingly clear that the role of financial literacy is crucial because it has knowledge content that impacts behavior and skills, which is supported by Morgan et al. (2019). The results of this study support Ozili's (2018) research that shows the existence of fintech can increase understanding of financial literacy. Financial literacy has an important role in financial well-being. Financial literacy shows the ability to process economic information that helps make financial decisions. Furthermore, financial literacy is multi-dimensional, reflecting not only knowledge but also skills, attitudes, and behavior (Morgan et al., 2019). A better understanding of individual’s financial data could help healthcare professionals improve care (Inkster, Loo, Mateen, & Stevenson, 2019). If individuals do not understand financial principles, then it is likely that they will not benefit from the increased access to fintech. This means that the role of financial literacy can also be considered in the operations of the healthcare industry.

Conclusion

The Covid-19 pandemic is a challenge for healthcare systems around the world. The challenge of quick and global Covid-19 transmission shows that the most urgent need right now is to deliver fast, reliable, and affordable health services. This is understandable because health problems will have a multiplier effect on the economy, so the government pays special attention and provides various relaxation of special financial policies for the healthcare industry. This study aims to investigate the fintech usage to face the turbulence of the Covid-19 pandemic in increasing efficiency in the healthcare industry. This research adopted TAM theory to understand user acceptance better, while the effectiveness variable and coupled with the fintech literature as a moderator, was used to determine the effectiveness of fintech.

This research model specifically also raises financial literacy in the healthcare industry to prove that financial literacy in the healthcare industry can increase the effect of fintech on the efficiency of the healthcare industry. The financial literacy variable has a very strategic role, especially for the Indonesian people, including the healthcare industry players, because from the mapping results done by the Health Office in Indonesia, it is found that the financial literacy index is still low.

This study applied the theory of reasoned action with a behavioral approach to proving the mechanism for implementing fintech in increasing the efficiency of the health industry in Indonesia during the Covid-19 pandemic. So that, this finding contributes to the theoretical and practical. Theoretical contribution of this study is adding literature about fintech in increasing effectiveness in healthcare industry using TAM approach. While practical contribution is giving insight to the healthcare industry to consider the fintech and acceptance of technology in improving healthcare effectiveness. For the government it can be recommendation to increase the use of fintech and other technology to increase efficiency and healthcare performance. Beside the contribution, this study also has limitation due to the perspective of this study is too wide, for further research it can be specified by user both professional and patient perspective. This proves that respondents with previous financial knowledge have high self-efficacy. Respondents' financial literacy can increase efficiency without having to consult about finance and investment first.

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Open Access Article SciPap-1580

How Social Advertising Affects the Buying Behaviour of Malaysian Consumers? Testing the Moderating Effects of Gender and Education

by Fazal Ur Rehman, Viktor Prokop, Bestoon Othman, Farwida Javed, Sadia Ijaz

Abstract: This study examines the influence of social advertising on the buying behaviour of Malaysian consumers along with the moderating role of gender and education. We use our own Primary data that were collected through questionnaire-based survey from the shoppers at various shopping malls of fashion clothing brands at Kuala Lumpur and State Johor in Malaysia. The collected data were analyzed by using step wise regression and correlation statistics to find results. The findings revealed that social advertising, informativeness, entertainment, credibility, ease of use, contents, and gender have positive effects on the buying behaviour of Malaysian consumers toward the fashion clothing brands. By contrast, we find negative effects of privacy and education. Next, we show that gender has moderating effects in the defined context. The main contribution of this study is the assessment of the effects of some unique and influential factors of social advertising on the buying behaviour among Malaysian consumers towards the fashion clothing brands. In addition, this study has also assessed the moderating effects of gender and education to extend the body of knowledge in that area. Finally, we present practical implications for managers.
Keywords: Fashion Brands, Social Advertising, Consumer Behaviour, Education, Gender
JEL classification: H, P35

Open Access Article SciPap-1550

Innovation Ecosystem in Selected Regions of the Czech Republic and Poland

by Jindra Peterková, Katarzyna Czerná, Jarmila Zimmermannová

Abstract: There are no official statistics in the Czech Republic and Poland mapping the number of start-ups, spin-offs, and organizations supporting innovative businesses. The paper defines the specifics of innovation ecosystem in selected regions of the CZ Moravian-Silesian Region and PL Silesian Voivodeship. Similar economic and socio-cultural developments characterize chosen regions. Hypotheses are defined whose statistical significance is evaluated through the Pearson Chi-Square test. The results are estimated separately for the Moravian-Silesian Region and Silesian Voivodeship and focus on identifying the ownership of organizations, the nature of services provided, and the average annual occupancy of clients in the business phase financing business support programs and possible cooperation between organization. Using the hierarchical cluster analysis with the Ward method, the authors described four clusters. Based on the results obtained from the solution, a general model of the innovation ecosystem supporting innovative entrepreneurship is defined.
Keywords: Science And Technology Park, Innovation Ecosystem, Coworking, Startup, Business Incubator
JEL classification: M1, M2, O3

Open Access Article SciPap-1509

Does Financial Technology Matter? Evidence from the Indonesia Healthcare Industry During the Covid-19 Pandemic

by Liliana Inggrit Wijaya, Zunairoh Zunairoh, Andri Rianawati, Vincentius Riandaru Prasetyo, Indro Harianto

Abstract: The Covid-19 pandemic has created various new restrictions, including restrictions on direct interaction in the administrative process of hospitals. In fact, the administrative process in Indonesian hospitals is still complex, not well organized, and has not used technology properly. This study aims to analyze the effect of financial technology (fintech) and financial literacy on the efficiency of the Indonesian healthcare industry during the Covid-19 pandemic era.

This study uses a quantitative method with an online survey for data collecting. The purposive sampling was applied to get 225 respondents. The dependent variable is financial technology usage, which is measured through three perceptions of fintech users: perceived ease of use, perceived usefulness, and internet usage of all healthcare service users in the healthcare industry in Indonesia. The moderating variable adopted in this study is financial literacy, which is a combination of the understanding (knowledge), skills, attitude, and ability to make sound judgement and decision (behavior) on personal financial matters resulting in individual financial well-being. This study uses the SEM (Structural Equation Modeling) method to analyze the efficiency of the healthcare industry. The study results show that perceived ease of use and perceived usefulness have an effect on fintech; fintech has a positive effect on efficiency, where financial literacy also strengthens the effect of fintech on efficiency in the Indonesia healthcare industry during the Covid-19 pandemic. The results of this study are expected to make a significant contribution to the development of the healthcare industry that currently becomes a top priority, given the urgency in handling public health, including Covid-19 patients. Additionally, this research provides a theoretical contribution by increasing fintech literacy in the healthcare industry in increasing efficiency during the Covid-19 pandemic. While practical contribution is about giving new insight to consider the technology in improving management process in healthcare industry.

Keywords: Financial Literacy, Financial Technology, Healthcare Industry, Covid-19, Efficiency
JEL classification: F64, F65, G, G01, G38

Open Access Article SciPap-1478

User Churn Model in E-Commerce Retail

by Martin Fridrich, Petr Dostál

Abstract: In e-commerce retail, maintaining a healthy customer base through retention management is necessary. Churn prediction efforts support the goal of retention and rely upon dependent and independent characteristics. Unfortunately, there does not appear to be a consensus regarding a user churn model. Thus, our goal is to propose a model based on a traditional and new set of attributes and explore its properties using auxiliary evaluation. Individual variable importance is assessed using the best performing modeling pipelines and a permutation procedure. In addition, we estimate the effects on the performance and quality of a feature set using an original technique based on importance ranking and information retrieval. The performance benchmark reveals satisfying pipelines utilizing LR, SVM-RBF, and GBM learners. The solutions rely profoundly on traditional recency and frequency aspects of user behavior. Interestingly, SVM-RBF and GBM exploit the potential of more subtle elements describing user preferences or date-time behavioural patterns. The collected evidence may also aid business decision-making associated with churn prediction efforts, e.g., retention campaign design.

Keywords: Feature Set Importance, Feature Importance, Electronic Commerce, Churn Prediction, User Model, Customer Relationship Management, Machine Learning, Retail
JEL classification: C60, M31

Open Access Article SciPap-1460

Effects of Subsidy on Publication Outputs. Can Small Research Grants Lead To Higher Quality Scientific Articles?

by Valeria Nemethova, Miroslav Šipikal, Alexandra Salamonova

Abstract: Universities play a crucial role in new knowledge production that is considered as key driver of economic growth. Hence, the support of university research is essential, usually provided by the public sector. This article presents an evaluation of small grants of universities through examining research projects in the field of economics implemented in years 2008-2018 in Slovakia. A negative binomial regression analysis was used to determine the effects of small grants on publication outputs of supported researchers. Impact of subsidy on the number of all publications and separately on the quantity of higher quality scientific articles was distinguished. Results show a slight positive impact of the volume of funds on overall publication outputs, even though other factors seem to be more important as the size of the research team, the proximity to the capital city as well as the quality of faculty at which the project is implemented. Conversely, the impact of the volume of funds on higher quality publication appears to be not significant. In this case, more substantial are factors indicating the previous reputation of the research team, ranking of faculty and general research environment. Our findings indicate that researchers with great publication activity are willing to report high quality scientific articles in forthcoming periods regardless the support. Ergo, less active scientists

are not benefiting from small grant in terms of their publication improvement.

Keywords: Universities, Project Funding, Small Grants, Economic Research, Negative Binomial Regression
JEL classification: G28, H52, I28

Open Access Review SciPap-1454

A Review of Platform Business Models

by Markéta Mlčúchová

Abstract: The paper focuses on platform business models as ubiquitous features of the digital economy whose economic importance is continuously increasing. Considering their varying definitions and diverse typology, the aim of this paper is to coin a unified definition and identify the main attributes of platform business models. In line with fulfilling the aim of the paper, the following research question is addressed: 'What are the main attributes of platform business models?'. Based on a vast literature review, the paper coins a unified definition and devises a novel typology, distinguishing four main types of platform business models: transaction, innovation, integrated and investment. Furthermore, the importance of both digital data and network effects as the main identified attributes is highlighted. Additionally, the paper devises a novel typology of network effects, amplifying users' value-creating activities and interconnected relationships. The novel typology of network effects is distinguishing direct, indirect (cross-sided, cross-network or two-sided), data, positive and negative network effects.

Keywords: Digital Economy, Business Model, Platform Business Model, Digital Data, Network Effects
JEL classification: L86, F23

Open Access Article SciPap-1405

Allocation of Public Funds from The State Budget to The National Sports Associations in Slovakia

by Jozef Kučera, Juraj Nemec

Abstract: National sports associations in Slovakia are the umbrella organizations for individual types of sports and help achieve the objectives of public policies in the field of sports. In the Slovak Republic, these sports organizations are predominantly funded from public funds. This paper focuses on the system of financing of national sports associations in the Slovak Republic according to the rules laid down by the new law on sports in 2016. The aim of the paper is to identify the main changes in the methodology of financing national sports associations in the Slovak Republic and redistribution of public resources. Based on an interview with a selected group of experts in the field of sports in Slovakia and analysis of empirical data, changes in the methodology of financing national sports associations were identified. In conclusion, it could be said that the new system of financing national sports associations following the adoption of the new law on sport is not only not fairer from the point of view of the redistribution of public funds, but also poses fundamental implementation problems.

Keywords: National Sports Associations, Recognized Sports, Public Funds, Contributions To Recognized Sports, Share Of Recognized Sports, Financial Brake System
JEL classification: H41, H51, I18

Open Access Article SciPap-1397

Unlocking Potential Social Value Creation to Improve Digital Startup Performance: The Role of Government Institutional Support and Social Entrepreneurship

by Septian Wahyudi, I Made Sukresna, Rintar Agus Simatupang

Abstract: The main goal of social entrepreneurship is to achieve organisational performance while facing various challenges, including a lack of financial support and difficulty harmonizing commercial activities with social missions. The authors suggest that government institutional support can revitalize social entrepreneurship through financial support and various policy measures. In addition, social entrepreneurship can increase the creation of social change to meet their social needs, known as social value creation. Hence, this study proposes institutional factors and social entrepreneurship as predictors of social value creation. Social value creation mediates the relationship between social

entrepreneurship and organisational performance grounded on innovation theory. The study applies structural equation modeling with AMOS-24 software to test the research hypotheses with 249 Indonesian digital startups with a social impact as a sample. The results find that government institutional support can increase social entrepreneurship and enhance social value creation. As hypothesized, social value creation is a mediator in improving organisational performance. This study contributes to a comprehensive understanding of government institutional support, social entrepreneurship, social value creation, and organisational performance.
Keywords: Social Entrepreneurship, Government Support, Social Value Creation, Innovation Theory, Digital Startup
JEL classification: L26, M, M13

Open Access Article SciPap-1389

Smart Cities – Overview of Citizen Participation across Application Domains

by Oliver Rafaj, Stefan Rehak, Tomáš Černěnko

Abstract: Smart Cities is a widely discussed topic in the social sciences. At first, awareness of Smart Cities in society was based mainly on the fact that these are cities that use modern information and communication technology (ICT) to ensure the provision of public services to their citizens. However, with the development of technology and the growing openness, the role of citizens in the city administration is changing. Thanks to the day-to-day use of ICT to communicate with the city administration, citizens are gradually becoming from ordinary consumers of public services to their co-designers and co-authors. The existing body of literature has so far focused mainly on describing examples of forms of involving citizens in the design and creation of specific public services in selected application domains. However, a comprehensive overview and comparison of citizen participation between different application domains is lacking in the literature. Therefore, the aim of this article is to provide an overview of the development of citizen participation in the concept of Smart Cities and its various application domains. Our research has shown that the topic of Smart Cities is a widely discussed topic in society, especially over the last 10 years. At the same time, our findings confirmed that there exist differences between application domains in citizen participation. From an analysis of published scientific articles on Smart Cities, we found that most of the articles on Smart Cities deal with the fields of natural resources and energy, transportation and mobility, and living. However, from the perspective of the participation of citizens, there are other application domains at the top of the number of publications.
Keywords: Citizen Participation, Smart Cities, Application Domains, Smart City Governance
JEL classification: R58, H41

Open Access Article SciPap-1384

Panel Data Analysis of CEE and SEE Determinants of Unemployment

by Jurica Bosna

Abstract: This paper deals with a comparative analysis of the determinants of unemployment in CEE and SEE countries. The comprehensive analysis for the observed period from 2002 to 2019 provides important insights into the homogeneity of the determinants of unemployment and the efficiency of the labour markets of CEE and SEE countries, thus contributing to the existing literature. As determinants of unemployment in CEE countries the analysis confirmed the importance of unemployment from the previous period, GDP, public debt, labour force participation rate, self-employment and the population aged between 15 and 64, while the importance of unemployment from the previous period, GDP and the population aged between 15 and 64 were confirmed as determinants of unemployment in SEE countries. The demographic factor had an exceptionally strong impact on the reduction of unemployment in CEE and SEE countries – population aged between 15 and 64, which is a devastating fact and a great challenge that the observed countries will have to manage. Without effective demographic policies, labour market policies, education system in line with market needs, investment in research and development, and the systematic promotion of a culture of entrepreneurship and innovation, it will be difficult to increase the efficiency of the labour market in the long run and achieve sustainable economic growth.
Keywords: Unemployment, Labour Market, Panel Data Analysis, Flexibility, Demography
JEL classification: E02, J01, J11

Open Access Article SciPap-1380

Sustainability Drivers of Small and Medium Sized Firms: A Review and Research Agenda

by Renata Korsakienė, Agota Giedrė Raišienė

Abstract: While increasing awareness of issues such as raising energy prices, increasing customer concerns about the safety of products and services, and the reduction of carbon emissions influence firms, scarce studies focus on small and medium-sized enterprises (SME). This study seeks to systematically analyse the literature focused on sustainability of SMEs. Bibliometric analysis of 220 articles included in the WoS database (Clarivate Analytics) database and visualization with VOSviewer software let us reveal the cooccurrence of author keywords, bibliographic coupling sources and references, leading journals, and countries. The second step of the research is based on a systemic review of 25 articles with the purpose of reviewing empirical findings in the field of firm-level sustainability of SMEs. The analysis has led to thematic commonalities considering resources and capabilities, strategy, stakeholders, human capital, and innovations. The paper fills the literature gap on systematic analysis of SME and sustainability and develops recommendations on how to address prevailing research gaps.
Keywords: Sustainability, Smes, Bibliometric Analysis, Thematic Commonalities
JEL classification: L21, Q01

Open Access Article SciPap-1359

Consumer Perception of Regional Brands in Czechia in 2021

by Michal Stoklasa, Kateřina Matušínská

Abstract: The Covid-19 pandemic in 2020 and 2021 changed consumer purchasing behaviour and brand perception. Regional brands were denied their traditional availability and communication channels due to lockdowns. This poses a question whether regional brands are even relevant for consumers and companies in 2021? The aim of the article is thus to find out what the consumer regional brand awareness is, what are perceived regional brand characteristics/benefits, and what are regional brand customers characteristics. The sample used is 1050 respondents from the Czech Republic, gathered by Ipsos. The method used is online survey. The results are compared, where available, with results from 2014 and 2018 to illustrate the trends. Three research questions were formulated based on the three parts of article aim. Main findings include: the regional brand awareness is rising over the researched period to 73 % prompted awareness; main characteristics include region support, traditional production, high quality, and uniqueness; most favourable customer segments are age groups 46-55 and 56-65, with secondary and tertiary education, and income of 30 000 CZK and more.
Keywords: Consumer Behaviour, Regional Brand, Regional Brand Characteristics, Brand Model, Brand Awareness, Customer Characteristics.
JEL classification: M31

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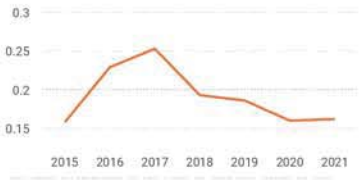

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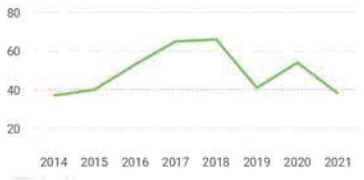

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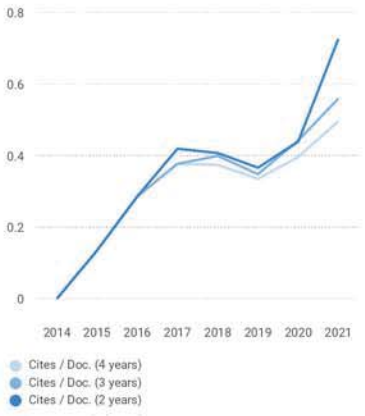

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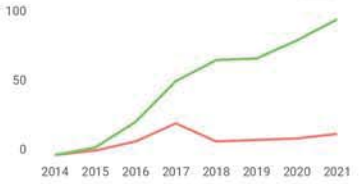

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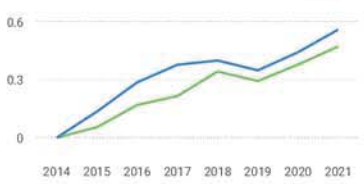

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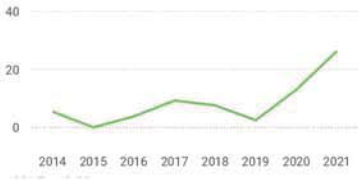

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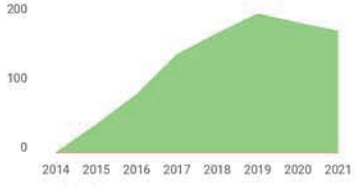

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