

Determinants for participation in independent learning policy and independent campus programs

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ABSTRACT

This paper proposes a framework for participation determinants in lifelong learning through the Independent Learning Policy and Independent Campus or *Merdeka Belajar Kampus Merdeka/Independent Learning Independent Campus (MBKM)*. The framework is based on the technology acceptance model (TAM), self-determination theory (SDT), theory of planned behavior (TPB), and institutional theory. This study contributes to the literature by identifying specific factors and indicators to improve along with their impacts on the participation when the organizers of such initiatives wish to increase participation. Indonesia is the biggest country in South-East Asia with a large economy and influence in the world. Conditions, progress, and setbacks in Indonesia will influence other countries. Many job applicants do not meet the requirements for the job they applied for. Therefore, the Indonesian Ministry of Education initiated the MBKM programs to develop human quality, especially the university students to enhance their skills to meet the job requirements. The 740 respondents completed the online survey with 150 questions to represent reflective indicators. The results were analyzed with the partially least square-structural equation model (PLS-SEM) method and found the influential factors driving participation in MBKM are social influence, supporting factors, government decisions, utility, and recognition. Further analysis indicated that convenience and financial incentive factors do not affect participation.

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1. INTRODUCTION

With a 273 million population, large territory, abundant natural resources, a highly strategic location, and among the largest economies in the world, Indonesia possesses large potential and influence for world development [1], [2]. Indonesia is having a demographic bonus with a high proportion of its population of productive age. This productive age when unabsorbed into the working force, will create economic problems, burden the country's budget, increase the crime rate, and lower the life quality of the citizens. The unemployed population has a few options when stepping into the productive age, such as working in a company, entrepreneurial initiatives, becoming a public official, joining the army, or staying unemployed. Often the companies found that job applicants do not possess the skills needed, have low communication and teamwork capability, lack working experience, and inability to adapt to the job situation that requires

interdisciplinary ability. Researches by the World Economic Forum, Pearson Education, Nesta, Oxford Martin, and the United Nations of Development Program show that many people are concerned about the impact of automation and technological advancement on future job availability [3]. Research reports identify negative impacts of globalization, demographic shifts, climate change, urbanization, political turmoil, natural disaster including pandemics, and welfare inequality toward job access for the people [4]–[6].

The Independent Learning Policy and Independent Campus or *Merdeka Belajar Kampus Merdeka/Independent Learning Independent Campus (MBKM)* are a set of various activities initiated by the Indonesian Ministry of Education to give students studying experience from their respective campuses, business world, the industrial world, and social works [7]. The MBKM is designed to support various initiatives from lecturers, researchers, practitioners, policymakers, and other related parties, to answer real-world problems. Activities in MBKM include; student exchange and mobility, an internship in companies, rural and villages development, humanitarian projects, entrepreneurship activities, independent project or studies, research, and innovation development, teaching in educational institutions, social services, and social development [8]. The MBKM program so far has enrolled over 200,000 Indonesian university students participated in various activities since 2020, and received positive responses from the students [9].

Students who take part in the MBKM activities may choose to convert the results from the activities into the learning credit in their respective universities, based on government regulations and instructions [8]. Lecturers can also take part in the MBKM as mentors, supervisors, principal researchers, or other available roles. Universities also can benefit from the accreditation points and national recognition if their students take part, get selected, or perform well in the MBKM activities [7]. Since the MBKM programs are relatively newly conceived in 2020 [8] as the nationwide education initiatives, the stakeholders are still figuring out best practices to increase involvement, result and output quality, impact assessment, strategy development, student behavioral pattern, the impact of incentives on participation, and indicators to understand student capabilities [7]. The funds to take part in MBKM, are mostly provided by the Indonesian Ministry of Education taken from the annual national budget. The stakeholders of similar nationwide education initiatives around the world are having similar problems as their Indonesian counterparts [4], [10].

This paper explores the influential factors and their indicators in MBKM activities participation, in the light of prominent technology adoption theories. The research framework in this paper uses partially least square-structural equation model (PLS-SEM) analysis to map the significant factors and indicators of students' participation in the MBKM programs. As far as the authors' knowledge, this paper is the first paper to provide maps of the relative importance and performance of each factor and indicator to inform the nationwide education initiatives decision-makers to improve the factors and indicators that are relatively important yet has weak performance.

2. THE COMPREHENSIVE THEORETICAL BASIS

2.1. Literature review

The shifting landscape of the workplace due to digitalization, demands new skills and knowledge set from the workforce, especially in soft skills, interpersonal, and complex thinking [10]. Developing the Indonesian human quality to meet the need of this digital age, requires lifelong and continuous learning to anticipate changing job requirements in the future [11]. The path to work usually requires conventional diplomas, traditional work references, and vocational training [12]. However, the changes in technology, culture, society, economy, and environment require a more flexible, dynamic, and measurable system. This new system requires cross-discipline knowledge and skill, cooperation from various stakeholders including outside the conventional education sector, and changes in education bureaucracy that have already been rooted in for decades [13], [14].

This civilization is at a starting point in higher-education reformation, heralded by three waves: access to higher education for the wider population, success in higher education marked by conventional diplomas and titles, then demand-driven education that prepares graduates for flexible works, which will give career satisfaction throughout careers in their entire life [3]. Demand-driven education adjusts the learners and work providers, by fulfilling qualifications and providing training suitable to fulfill society's needs. This third wave introduces synchronization between education and work by building new connections, career paths, and synergy throughout multiple disciplines. To ensure the learners and university graduates possess evolvable skills [3], [15], the stakeholders in the education sector should: i) Develop skills needed by the market and industry; ii) Use teaching methods that increase learners' competence while preparing the teachers to be open to new types of learning; iii) Listen and adjust bureaucracy to the needs of the industry; iv) Create flexible career paths for learners to quickly earn financially from the learning; v) Support changes by assisting traditional and alternative education providers to develop new products, processes, and management. Demand-driven education is closely linked to learning results [8].

Education quality assessment based on the learning result can provide accountable assessment methods in the education and life learning according to the real needs of the industry [10]. A learning-result-based approach can bring more constructive balance to the education and workplace [16]. Incumbents in the education sector may not and cannot hide behind bureaucracy and past achievements that cannot satisfy current industry needs [17]. Incumbents and newcomers must educate the graduates to meet the current and future demands of the industry to survive facing unprecedented disruptions [18].

MBKM was initiated by the Indonesian Ministry of Education and supported by academics and industry to answer the needs for human development through demand-driven education. This paper identifies determinants for participants in MBKM programs, theories that support the determinants, indicators rationalization. In addition, this paper explores the uniqueness of two of the seven determinants that do not conform to the conventional theories.

2.2. Hypothesis development

This paper uses a few guiding theories: Technology acceptance model (TAM), self-determination theory (SDT), theory of planned behavior (TPB), and Institutional Theory. TAM is usually used to predict behaviors and individuals' acceptance of technology [19], which considers individuals to make decisions based on rational factors. In TAM, the MBKM participants are believed to make decisions to use technology based on rational considerations. Previous researches show that there are strong correlations between individual behaviors and inclinations in online learning, telecommunications, social media, and mobile application use [19], [20]. Constructs in TAM usually comprise things that influence individual behavior such as usefulness (utility factor), convenience (convenience factor), and other external factors. Previous researches show that utility and convenience are considered important when someone is about to participate in learning using technology and the users' satisfaction after using the technology [21].

The SDT tests whether people's behavior is motivated from within the self. When people have fulfilled their basic needs, people tend to have higher performance, health, and prosperity than those whose basic needs are not fulfilled [22]. The basic needs can be physiological needs such as food, air, and water, and also can be psychological needs such as love, respect, and acceptance (recognition factor) [23]. In the modern world, a sense of financial security is considered one of the basic needs [24]. SDT theorizes that every human must continually receive three psychological needs: autonomy, competence, and connectedness, to live optimally and grow their prosperity [25].

The TPB theorizes that individuals behave rationally and systematically in using available information when deciding to act or not to act, by considering the impact of their actions [26]. This theory says that an individual's action is determined by the subjective norms upheld where he or she lives. This behavior can be actions considered appropriate or non-appropriate. These subjective forms refer to social pressure (social influence factor) from other individuals, be it to do or not-do the planned action. According to TPB, the desire to act can be executed when the desired action can be controlled by the actor, which means the individual has full control over whether to act or not to act. There were three norms related to TPB: injunctive norm (support and contradiction from others upon a behavior from an individual), descriptive norm (behavior done by others), and moral norm (behavior that is considered moral or immoral). An actor may have the desire to do something, but not necessarily has opportunity or resources such as money, skills, time, information, and cooperation from others (supporting factors).

Institutional Theory explains why most organizations in an industry or sector, tend to think and act similarly [17]. Organizational structure and processes tend to seek stability based on effectiveness and efficiency to fulfill the organization's mission and purposes. As time goes by, organizations within the same industry or sector will be homogenized in structure and practices.

Figure 1 shows path coefficients of the framework that explore determinants for participation (PAR) in MBKM programs: social influence factor (SOC), supporting factors (SUP), government decision (GOV), utility (UTI), recognition (REC), financial incentives (FIN), and convenience (CON). The plus sign (+) indicates that there are indicators hidden in every variable. The indicators are hidden to simplify the figure for easier understanding of the relationship among the variables. Based on prior research, this research tests the existence and relationship among factors to help stakeholders identify and improve influential factors for participation in MBKM programs. The indicators and the survey questions are listed in Table 1.

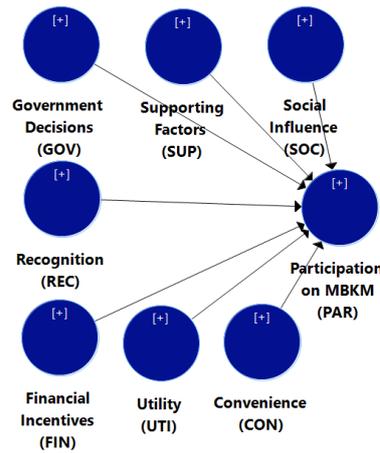


Figure 1. Research framework

Table 1. Indicators and the survey questions

Indicator	Survey question
PAR1	I know about MBKM programs.
PAR2	I want to join at least one MBKM program.
PAR3	I am taking part in an MBKM program.
PAR4	I will join the future MBKM program.
PAR5	I believe the government is on the right track by doing MBKM programs.
UTI1	MBKM programs increase my knowledge and skill.
UTI2	MBKM programs provide me with real-world working experience.
UTI3	MBKM programs connect me with the professional network in the industry.
UTI4	MBKM programs enhance reputation and achievements.
UTI5	MBKM program can help my self-development.
FIN1	The government, campuses and related parties need to provide financial incentives to MBKM participants
FIN2	Financial incentives must be sufficient to replace costs incurred due to participation in MBKM
FIN3	Financial incentives must be given directly to participants without going through other parties
FIN4	It is necessary to inform the participants about the amount and schedule for giving financial incentives.
FIN5	Financial incentives should be tax-free
CON1	I can easily get information about MBKM.
CON2	I can easily join the MBKM program.
CON3	I can easily get mentorship during the MBKM.
CON4	I can easily get recognition from the university or organizer for my participation in MBKM.
CON5	I can easily receive financial incentives or other incentives for my participation in MBKM.
SOC1	I take part in MBKM program because there was a request, order, or instruction from my lecturer, university, or other authorities.
SOC2	I feel more assured and confident to take part in MBKM because my friends take part in MBKM.
SOC3	I take part in MBKM because I feel bored studying online due to the pandemic.
SOC4	I take part in MBKM because I want to experience another major besides my own major.
SOC5	I take part in MBKM because I want to get new friends and experience a new environment.
SOC6	I take part in MBKM because I want to contribute to the society.
SOC7	I want to join MBKM because I want to explore new opportunities and exist in social media.
GOV1	The government needs to promote MBKM regularly (every week, month, or semester).
GOV2	The government should prepare simple bureaucracy before launching a new program in MBKM.
GOV3	The government needs to cooperate with the industry, universities, non-government agencies, and the public to run MBKM programs.
GOV4	The government needs to ensure the program's sustainability, even when the officials change.
GOV5	The government needs to consider the workload of students, lecturers, and universities in running MBKM programs.
SUP1	My university supports and facilitates participant enrollment in MBKM programs.
SUP2	My parents or guardians support my participation in MBKM programs.
SUP3	The government ensures the security and safety of participants in MBKM programs.
SUP4	The organizer of MBKM programs has provided an adequate facility for the participants.
SUP5	The condition during a pandemic is conducive enough for taking part in MBKM programs.
SUP6	The society/industry partner of MBKM programs accepts participants with good reception.
REC1	The government with the university should provide recognition for the individual's and group's effort, performance, and achievement in MBKM programs.
REC2	The university should acknowledge working entrepreneurship or internship experience as academic achievements.
REC3	The university should recognize achievements in arts, culture, social work, sports, or academics outside the campus, as equal to academic achievements.
REC4	The university and related organizers should create an integrated supervision system to ensure the quality of the recognition.
REC5	The government should create a centralized data center as the official reference for all the recognitions earned during MBKM programs.

According to TAM, utility perception (utility factor) and convenience in usage (convenience factor) affect users' behavior [27]. These two factors influence the behavior, intention, and decision of users in using technology and the continuity in using that technology [28]. When users feel that an action will benefit them, they will repeat that particular action, which eventually will form the users' habit [29], [30]. Teachers think the utility factor will positively influence the will to act, especially when this utility factor increases efficiency and provide meaning for the learners [31]. Informative and relational values can affect participants to join online learning [32]. According to the premises, the following hypothesis can be derived: Utility factor positively increases participants' interest in MBKM (H1).

Perceptions of convenience are defined as the level someone feels using information technology as an easy action [33]. Convenience in a program can be measured using how clear and understandable the program is, how easy the program is to be followed, how easy to be completed, and the minimum acceptable amount of effort to meet the desired result [34], [35]. Convenience influences people to participate in online learning [36], [37]. According to the discussion, the hypothesis is: Convenience factor positively increases participants' interest in MBKM (H2).

The feeling of acceptance in a social community can increase learning program effectiveness, while solitude will weaken students' learning motivation [38], [39]. Students who are isolated from the community and cannot socially interact will increase motivation to learn online, which in the end will increase learning satisfaction compared to those who do not have the means to learn online [40]. In a study environment, both online and offline, interaction affects study effectiveness [41]. Lack of social interactions can increase mental health risks and psychosomatic syndromes, which will decrease participation in the learning process [42]. A learner who belongs to a community will be affected by agreements and disagreements regarding his or her behavior, actions done by others, and social view of a particular action [43]. Through this discussion, the following hypothesis is: Social influence factor positively increases participants' interest in MBKM (H3).

An institution is defined as the structure and activities that provide stability and meaning for social behavior [44]. Examples of a public institution, are law, regulations, social and professional norms, customs, culture, and ethics. Examples of institutional actors are foundations, companies, government agencies, and various organizations. Institutions provide bounded influence called isomorphism, which pushes organizations within a population to mimic each other when facing similar problems and environments [17], [45]. Government decisions influence students and teachers to take part in an education initiative [46]. Supportive government policies are needed in an online-based and crowd-based circular economic activity [47], [48]. According to the discussion, the following hypothesis is derived: Government decision factor positively increases participants' interest in MBKM (H4).

A supporting condition is defined as a state of mind where someone believes that infrastructure, resources, bureaucracy, organizational structure, and technical capability can support a system to function properly [49], [50]. Blended learning participants tend to participate and be satisfied with online learning when they do not experience technical difficulties from the organizers, when familiar with the technology being used, facilities and infrastructures are adequate, and learning materials are not boring [51], [52]. Technology adoption willingness is an influential factor in online based activities [53]. Furthermore, the following construct is formed: Supporting factors positively increase participants' interest in MBKM (H5).

Recognition in this paper is defined as an acknowledgment of the informal or formal learning result earned by the MBKM participants [10]. Recognition here also can be an academic acknowledgment by the government together with the educational institutions where the MBKM participants are enrolled, professional acknowledgment by the industry where the participants have worked or interned, identification of working experience or professional achievements as academic accomplishments, and other forms of recognition [12]. From the previous discussion, the following hypothesis is proposed: Recognition factor positively increases participants' interest in MBKM (H6).

A financial incentive is defined as an incentive that has financial value or can be valued equal to financial value, for their participation in MBKM programs. Financial incentives increase active academic participation and medical report completeness [54]. Extrinsic benefits (money, position promotion, and other benefits at work), intrinsic benefits (reputation, relation, and self-satisfaction), and altruism (self-sacrifice) are significant factors in behavioral research on knowledge sharing among employees [22], [55]. Finally, the proposed hypothesis is: Financial incentive factor positively increases participants' interest in MBKM (H7).

3. RESEARCH METHOD

According to the literature review and previous research, this paper considers determinants that encourage students to participate in independent learning policy and independent campus or MBKM, proposes a research framework of participation in MBKM, and tests the hypothesis. This research uses the PLS-SEM method to test the hypothesis and adopt latent variables with reflective indicators. Every indicator represents a facet of the phenomena.

The framework uses eight latent variables, one dependent variable, and seven independent variables. Every variable and indicator use existing works of literature as the theory base to support validity and reliability. Every latent variable was initially measured using five to seven reflective indicators, and every indicator was measured using a 5-point Likert scale, with 1 as very disagree and 5 as very agree. After the data analysis, indicators that are not significant are removed from the final model.

The paper solicited responses from 1,500 respondents, which yielded 814 responses, where there were 740 valid and complete responses to 150 questions. All respondents who are the active students of the university, must answer every question, of both surveys provided in this paper, and the survey provided by the Indonesian Ministry of Education. All respondents who have provided complete and valid responses received a mobile phone data quota subsidy equal to US\$ 20 through e-wallets.

To filter the outliers, those who answer recklessly, the researchers randomly put five trap questions in five separated parts. The trap questions were generic questions about common knowledge, such as basic math (2 plus 2 equals to...) or basic social knowledge (the capital of Indonesia is...). Respondents who failed in the trap questions were excluded immediately from the survey, and they cannot continue the survey while notified that they were not qualified as respondents. Respondents who have answered the survey failed in the trap questions, cannot fill the survey again because the survey employed IP number identification. Table 1 shows the questions used in the model to represent indicators within the variables.

A private university in Jakarta was chosen as the location for the survey, as instructed by the Indonesian Ministry of Education. The survey is a part of the 2021 MBKM research grant from the Indonesian Ministry of Education. The samples are students and lecturers of undergraduates from all majors except the Faculty of Medicine because no student from that faculty officially joined the MBKM programs representing the university. Respondents were from information technology, information system, electronic engineering, industrial engineering, civil engineering, English literature, psychology, management, and accounting. Survey links were distributed from December 14th to 22nd 2021 through WhatsApp group, email, and official announcements from the department heads. Incomplete or disqualified responses are omitted from data analysis.

4. RESULTS AND DISCUSSION

The PLS-SEM was used to test the connections of all latent variables. PLS-SEM was deemed suitable for this analysis because of its ability to explore new phenomena through complex model testing involving multi-variables where the samples may not have a normal distribution curve. The software that was used was Smart PLS version 3.2.8. The first step is to check Variance Influence Factor (VIF) values to identify the possible multicollinearity problem. High VIF values indicate a multicollinearity problem, which indicates that two or more indicators were representing a similar measurement. The acceptable VIF value is below 5.0. Every indicator has a value less than 3.0, which indicated there was no multicollinearity problem and no covariance problem in the data. When testing the loading factor of indicators, since the nature of this research is exploratory and every indicator was based on a theory, then the loading factor of at least 0.6 was accepted [56]. The indicators lower than 0.6 were discarded. Thus, Table 2 of loading factors represents the kept indicators.

The validity test on the measurement model (variables), the government decision factor, and the participation factor shows that the Cronbach's alpha value is less than 0.7 but more than 0.6. The Average Variance Extracted (AVE) values also exceed 0.5, which confirms the variance of every construct, is adequate. Due to the nature of the study being exploratory and both constructs are supported by theory, then both constructs are retained. Table 3 shows the validity and reliability of each construct.

The result of discriminant validity test in the Table 4 also shows that each construct is unique and can represent the phenomenon being tested, indicated by the value on the diagonal in a column, which is higher than all other values in the same column. For example, the value of Financial Incentive row in the financial column (0.754) is larger than all other values in the financial column such as convenience (0.298), government decision (0.593), supporting factors (0.309), participation (0.306), social influence (0.271), recognition (0.610), and utility (0.421). Likewise, the value of convenience row in the convenience column (0.763) is larger than all other values in the same convenience column.

Table 2. Loading factors

	Financial incentive	Convenience	Government decision	Supporting factors	Participation	Social influence	Recognition	Utility
CON1		0.785						
CON2		0.756						
CON3		0.818						
CON4		0.776						
CON5		0.671						
FIN1	0.748							
FIN2	0.799							
FIN3	0.677							
FIN4	0.788							
GOV1			0.759					
GOV2			0.635					
GOV3			0.699					
GOV4			0.740					
PAR2					0.816			
PAR4					0.847			
PAR5					0.680			
REC1							0.804	
REC2							0.655	
REC4							0.738	
REC5							0.724	
SOC2						0.660		
SOC4						0.778		
SOC5						0.707		
SOC6						0.772		
SOC7						0.762		
SUP1				0.674				
SUP2				0.725				
SUP3				0.719				
SUP4				0.798				
SUP5				0.667				
SUP6				0.774				
UTI1								0.799
UTI2								0.793
UTI3								0.782
UTI4								0.789
UTI5								0.754

Table 3. Construct validity and reliability

	Cronbach's alpha	rho_A	Composite reliability	AVE
Financial incentive	0.751	0.773	0.840	0.569
Convenience	0.821	0.840	0.874	0.582
Government decision	0.672	0.680	0.802	0.504
Supporting factors	0.821	0.824	0.871	0.530
Participation in MBKM	0.681	0.684	0.826	0.615
Social influence	0.789	0.795	0.856	0.543
Recognition	0.710	0.723	0.821	0.536
Utility	0.843	0.848	0.888	0.614

Table 4. Discriminant validity

	Financial incentive	Convenience	Government decision	Supporting factors	Participation	Social influence	Recognition	Utility
Financial incentive	0.754							
Convenience	0.298	0.763						
Government decision	0.593	0.344	0.710					
Supporting factors	0.309	0.670	0.368	0.728				
Participation	0.306	0.372	0.406	0.523	0.784			
Social influence	0.271	0.448	0.314	0.608	0.567	0.737		
Recognition	0.610	0.306	0.636	0.352	0.378	0.287	0.732	
Utility	0.421	0.593	0.519	0.598	0.489	0.516	0.475	0.784

The value of R^2 in Table 5 shows the total variance of all factors on participant participation in MBKM represented by the model. The value of 0.422 means that all MBKM phenomena can be represented by 42.2% by the model. This shows that there are other factors of 57.8% that have not been included in the model, which implicitly says that more in-depth research is needed to find these other factors.

To determine the effect of a variable when it is removed from the model, the f^2 test is carried out. The results of the f^2 test in Table 6 indicate that three factors have the most influence when removed from the model, namely social influence (0.12), supporting condition (0.031), and government decision (0.015). The convenience factor and financial incentives are considered to have no effect because their value is very small, much less than the 0.02 threshold value. Under strict criteria, only social influence and supporting conditions are considered to affect R^2 if they are removed from the model.

Table 5. R-square values

	R square	R square adjusted
Participation on MBKM	0.422	0.416

Table 6. F-square value

Factor (Determinant)	Participation on MBKM
Social influence	0.120
Supporting factors	0.031
Government decision	0.015
Convenience	0.003
Financial incentive	0
Participation on MBKM	

To see the importance of each factor on participation in MBKM, it is necessary to look at the path coefficient of each factor. The test results in Table 7 show that the decision to participate in the MBKM program is mostly influenced by the social influences of the participants, such as the desire to have experience in fields other than the field of study, contribute to society, want to experience new challenges and want to “exist”, and because their friends participated in the MBKM program. Thus, H3 is proven.

The second most influential factor in the consideration of students and lecturers in participating in the MBKM program is the supporting condition factor. The indicators include: MBKM organizers, namely the government and related parties provide adequate facilities for participants, the community accepts the presence of MBKM participants quite well, parents and guardians of participants support the participants' decision to take enroll in the programs, the government guarantees the safety and security of participants, the origin universities support the participation enrollment, and conditions of the pandemic which has been conducive enough to participate in the MBKM program. Thus, H5 is proven.

Table 7. Path coefficient

Factor (Determinant)	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T Statistics (O/STDEV)	p-values
Social influence -> Participation on MBKM	0.342	0.344	0.049	6.937	0
Supporting factors -> Participation on MBKM	0.208	0.204	0.064	3.236	0.001
Government decision -> Participation on MBKM	0.132	0.133	0.045	2.971	0.003
Utility -> Participation on MBKM	0.117	0.117	0.048	2.428	0.015
Recognition -> Participation on MBKM	0.097	0.096	0.043	2.270	0.023
Financial incentive -> Participation on MBKM	-0.020	-0.017	0.043	0.460	0.646
Convenience -> Participation on MBKM	-0.059	-0.055	0.051	1.171	0.242

The third most influential factor is the government decision factor. The government's initiative to promote MBKM regularly, the hope that the MBKM program will not stop when the government change after the general election, the existence of cooperation with industry and other stakeholders, and a bureaucracy that is ready to implement MBKM, are factors that support the participation of participants in MBKM. Thus, H4 is supported.

Although the recognition factor and utility factor do not meet the >0.2 criteria to be considered significant, they are still around the threshold value of 0.1 which is considered the limit for an insignificant factor. These two factors are still included as factors that affect participant participation in MBKM. Thus, H1 and H6 are proven.

The financial incentive and convenience factors are negative and far below the threshold value of 0.1, therefore they are not included as significant factors. This analysis and decision were strengthened through a bootstrapping procedure with a target sample size of 5,000. From the bootstrapping results, it can be seen that only five factors are quite significant ($T_{stat} > 1.96$) at the 5% significance level. Thus, hypothesis 2 (H2) and hypothesis 7 (H7) are not supported. Although this seems to go against logic, similar things have been found in other studies that Financial Incentives sometimes actually reduce respondents' participation in an activity [24]. The negative effect of convenience in educational participation, has been documented in previous researches [36], [37].

The Stone-Geisser Q² value is used to see if this model can predict enough data that is not used in model estimation. A value greater than zero (0.249) indicates that this model is good enough to predict the existing results even though the model uses data that is not from the current research results. The results in Table 8 show that this model is suitable for use for similar research on campuses, regions, or even other countries that also implement a program similar to MBKM.

Table 8. Q-square value

	SSO	SSE	Q ² (=1-SSE/SSO)
Financial incentive	2,652	2,652	
Convenience	3,315	3,315	
Government decision	2,652	2,652	
Supporting factor	3,978	3,978	
Participation on MBKM	1,989	1,494.264	0.249
Social influence	3,315	3,315	
Recognition	2,652	2,652	
Utility	3,315	3,315	

PLS-SEM does not require the model fit test which is usually used in CB-SEM. However, if this model is tested using the same standards in the model fit test, the model in this study meets all the model fit test criteria. Table 9 shows that the standardized root mean squared residual (SRMR) value is far below 1.0 even below 0.08, the Chi-square ratio and the degree of freedom ($X^2:df$) <3.0, the Normed Fit Index (NFI) value is higher than zero, and the RMS Theta value is close to zero.

Table 9. Model fit value

	Saturated model	Estimated model
SRMR	0.058	0.058
d_ULS	2.204	2.204
d_G	0.547	0.547
Chi-square	2061.339	2061.339
NFI	0.786	0.786

The value of Importance-Performance Analysis (IPMA) at the construct level (variable) in Figure 2, shows that the social influence factor (SOC) is very important (0.342) but its performance is among the lowest (<80%). Likewise, the supporting factor (SUP) is the second most important factor (0.208) while the performance is also one of the lowest (<80%). While the government decision (GOV) factor is the third most important (0.132), its performance is a bit better (80%). The IPMA value show which factor or indicator is the most important but has a relatively lower performance value than other factors or indicators. Factors or indicators that have a high importance value with a lower performance score can be improved to increase participant participation in MBKM. Factors or indicators that already have high importance value and have high performance, could be the next priority.

The financial incentive (FIN) factor has an importance value below zero and high-performance value (>80%). The SOC factor has a high importance value but relatively lower performance value, equivalent to GOV, and SUP. The SOC should be the priority for improvement since it is the most influential yet has lower performance than the other factors.

The IPMA values at the indicator level as in Figure 3, show that SOS4, SOS6, and SOS7 converge and have relatively similar positions in the importance value of about 0.1 and the performance value of about 75%. The SOS2 and SOS5 indicators converge and have a relatively similar position at an importance value of about 0.08 and a performance value of about 75%. These five enlarged icons in the following figure, representing five indicators, show the highest importance value with the relatively low performance value.

The stakeholders should prioritize improvement of these indicators to improve participation in the MBKM programs. These findings are in accordance with the self-determination theory used in this study [22], [23].

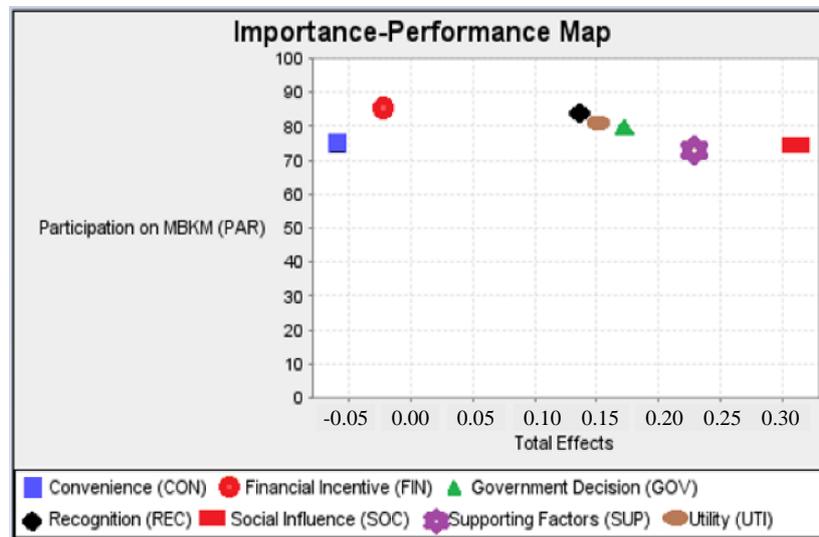


Figure 2. Importance performance map analysis (construct level)

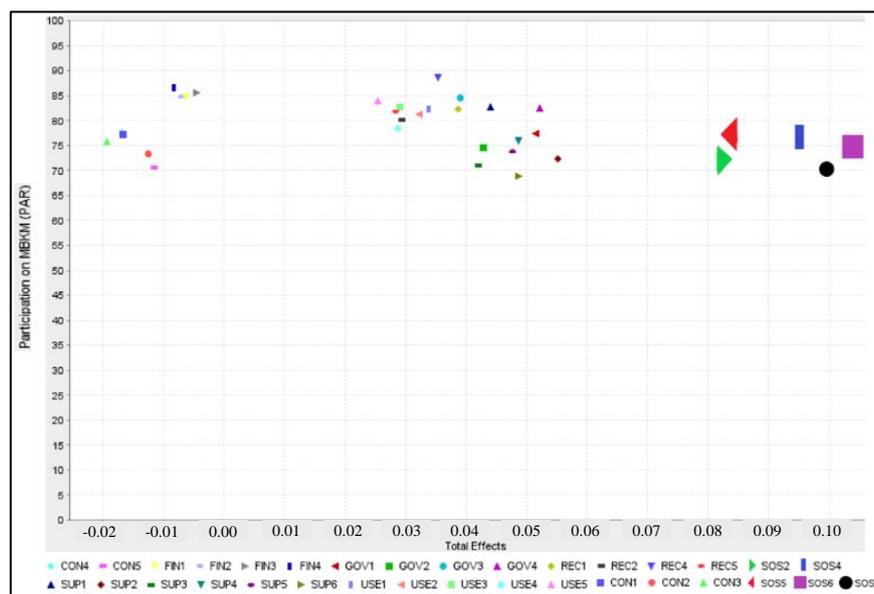


Figure 2. Importance-performance map analysis (indicator level)

5. CONCLUSION

The results of the statistical significance test of the path coefficients of all factors show that the most influential factors for participants to participate in MBKM, are social influence, supporting factors, government decisions, utility, and recognition. This result means that if MBKM organizers and stakeholders want to increase participant participation in MBKM, it is necessary to improve these factors. The factors that do not affect participation, are convenience and financial incentive factors. The probable cause for convenience to negatively effects the participation, is because students who already feel convenient in the conventional programs, do not feel the urge to participate in MBKM programs nor the students see the convenience as an important factor to take part in the program.

From the IPMA test, it can be inferred that there are two influential factors in the participation of MBKM participants but have relatively low performance, namely social influence and supporting factors. If MBKM organizers can only choose to improve one factor to increase participant participation, then they can improve the social influence factor. To improve some of the components in the social influence factor, the MBKM organizers can focus on increasing the possibility for participants to experience fields other than their majors' courses, increasing the impact of a program for people in need, and making good promotions so that participants feel challenged to prove themselves.

This research has several limitations. First, all respondents are lecturers and undergraduate students who come from or are affiliated with Krida Wacana Christian University. Given that the MBKM program is a national scale program, it is necessary to test the model in different populations by involving other campuses in various regions, to prove that this model can be generalized. By involving other campuses to test this model, the findings then can be crystallized to become a theory to explain the participation in an innovative education program on a large national scale. Second, the target population in this research survey comes from students of non-medical and non-health science faculties. Medical and health students may have participated in similar programs outside MBKM according to the medical study program curriculum. There is a need for research on medical and health science students who may have participated in similar programs beyond their capacity as students. Third, the time used for this study was only two weeks. In the future, similar studies could sample the population using the longitudinal method, to see if there was a significant change in participant participation over several years period. Fourth, this model has not considered demographic factors and the relationship between factors as moderators or mediators in the model. In future studies, there needs to be more in-depth research on factors that might moderate or mediate participants' participation in MBKM.

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REFERENCES

- [1] The World Bank, "Population, total - Indonesia," World Bank Group, 2021. [Online]. Available: <https://data.worldbank.org/indicator/SP.POP.TOTL?locations=ID> (accessed Dec. 22, 2022).
- [2] J. Hawksworth, R. Clarry, and H. Audino, "How will the global economic order change by 2050?" PricewaterhouseCoopers (PwC), Feb. 2017. [Online]. Available: <https://www.pwc.com/gx/en/world-2050/assets/pwc-the-world-in-2050-full-report-feb-2017.pdf>.
- [3] D. Jackson and M. Tomlinson, "Investigating the relationship between career planning, proactivity and employability perceptions among higher education students in uncertain labour market conditions," *Higher Education*, vol. 80, no. 3, pp. 435–455, 2020, doi: 10.1007/s10734-019-00490-5.
- [4] R.-D. Leon, "Measuring the knowledge economy: A national and organizational perspective," *Management Dynamics in the Knowledge Economy*, vol. 5, no. 2, pp. 227–249, 2017, doi: 10.25019/mdke/5.2.04.
- [5] M. M. Gobble, "Defining the Sharing Economy," *Research-Technology Management*, vol. 60, no. 2, pp. 59–63, 2017, doi: 10.1080/08956308.2017.1276393.
- [6] P. Hanafizadeh and S. Marjaie, "Trends and turning points of banking: a timespan view," *Review of Managerial Science*, vol. 14, no. 6, pp. 1183–1219, Dec. 2020, doi: 10.1007/s11846-019-00337-4.
- [7] P. N. M. Rizki, I. Handoko, P. Purnama, and D. Rustam, "Promoting Self-Regulated Learning for Students in Underdeveloped Areas: The Case of Indonesia Nationwide Online-Learning Program," *Sustainability (Switzerland)*, vol. 14, no. 7, p. 4075, 2022, doi: <http://dx.doi.org/10.3390/su14074075>.
- [8] I. G. Sudirtha, N. K. Widiartini, and M. D. Anggendari, "Development of 21st century skill learning designs through the application of the concept of independent learning in the vocational field," *Journal of Physics: Conference Series*, vol. 1810, no. 1, Mar. 2021, doi: <http://dx.doi.org/10.1088/1742-6596/1810/1/012062>.
- [9] L. Sandra, Marcel, G. Gunarso, Fredicia, and O. W. Riruma, "Are University Students Independent: Twitter Sentiment Analysis of Independent Learning in Independent Campus Using RoBERTa Base IndoLEM Sentiment Classifier Model," in *2021 International Seminar on Machine Learning, Optimization, and Data Science (ISMODE)*, 2022, pp. 249–253, doi: 10.1109/ISMODE53584.2022.9743110.
- [10] P. Werquin, *Recognising Non-Formal and Informal Learning: Outcomes, Policies and Practices*. OECD Publishing, Paris, 2010, doi: 10.1787/9789264063853-en.
- [11] W. Chen *et al.*, "IDC theory: habit and the habit loop," *Research and Practice in Technology Enhanced Learning*, vol. 15, no. 1, Dec. 2020, doi: <https://doi.org/10.1186/s41039-020-00127-7>.
- [12] M. Meghnagi and M. Tuccio, "The recognition of prior learning: Validating general competences," in *OECD Social, Employment and Migration Working Papers*, No. 270, OECD Publishing, Paris, 2022, doi: 10.1787/2d9fb06a-en.
- [13] T. Imam, A. McInnes, S. Colombage, and R. Grose, "Opportunities and Barriers for FinTech in SAARC and ASEAN Countries," *Journal of Risk and Financial Management*, vol. 15, no. 2, p. 77, 2022, doi: <https://doi.org/10.3390/jrfm15020077>.
- [14] J. Mensah, "Sustainable development: Meaning, history, principles, pillars, and implications for human action: Literature review," *Cogent Social Sciences*, vol. 5, no. 1, Jan. 2019, doi: <https://doi.org/10.1080/23311886.2019.1653531>.

- [15] W. F. Crittenden, I. K. Biel, and W. A. Lovely, "Embracing Digitalization: Student Learning and New Technologies," *Journal of Marketing Education*, vol. 41, no. 1, pp. 5–14, 2019, doi: 10.1177/0273475318820895.
- [16] C. Balestra, R. Boarini, and E. Toso, "What Matters Most to People? Evidence from the OECD Better Life Index Users' Responses," *Social Indicators Research*, vol. 136, no. 3, pp. 907–930, Apr. 2018, doi: 10.1007/s11205-016-1538-4.
- [17] P. J. DiMaggio and W. W. Powell, "The iron cage revisited institutional isomorphism and collective rationality in organizational fields," in *Economics Meets Sociology in Strategic Management* (Advances in Strategic Management, Vol. 17), Emerald Group Publishing Limited, Bingley, Jan. 2000, pp. 143–166, doi: 10.1016/S0742-3322(00)17011-1.
- [18] M. H. Rad, M. Mojtahedi, and M. J. Ostwald, "The Integration of Lean and Resilience Paradigms: A Systematic Review Identifying Current and Future Research Directions," *Sustainability (Switzerland)*, vol. 13, no. 16, p. 8893, 2021, doi: <https://doi.org/10.3390/su13168893>.
- [19] B. Wu and X. Chen, "Continuance intention to use MOOCs: Integrating the technology acceptance model (TAM) and task technology fit (TTF) model," *Computers in Human Behavior*, vol. 67, pp. 221–232, 2017, doi: 10.1016/j.chb.2016.10.028.
- [20] M. Al-Emran, V. Mezhyuev, and A. Kamaludin, "Technology Acceptance Model in M-learning context: A systematic review," *Computers and Education*, vol. 125, pp. 389–412, 2018, doi: 10.1016/j.compedu.2018.06.008.
- [21] P. C. Sun, R. J. Tsai, G. Finger, Y. Y. Chen, and D. Yeh, "What drives a successful e-Learning? An empirical investigation of the critical factors influencing learner satisfaction," *Computers and Education*, vol. 50, no. 4, pp. 1183–1202, 2008, doi: 10.1016/j.compedu.2006.11.007.
- [22] W.-T. Wang and Y.-P. Hou, "Motivations of employees' knowledge sharing behaviors: A self-determination perspective," *Information and Organization*, vol. 25, no. 1, pp. 1–26, 2015, doi: 10.1016/j.infoandorg.2014.11.001.
- [23] J. G. La Guardia, R. M. Ryan, C. E. Couchman, and E. L. Deci, "Within-person variation in security of attachment: A self-determination theory perspective on attachment, need fulfillment, and well-being," *Journal of Personality and Social Psychology*, vol. 79, no. 3, pp. 367–384, 2000, doi: 10.1037/0022-3514.79.3.367.
- [24] D. N. Stone, S. M. Bryant, and B. Wier, "Why are financial incentive effects unreliable? An extension of self-determination theory," *Behavioral Research in Accounting*, vol. 22, no. 2, pp. 105–132, 2010, doi: 10.2308/bria.2010.22.2.105.
- [25] E. L. Deci and R. M. Ryan, "Facilitating optimal motivation and psychological well-being across life's domains," *Canadian Psychology*, vol. 49, no. 1, p. 14, 2008, doi: 10.1037/0708-5591.49.1.14.
- [26] M. M. Mariani, R. Perez-Vega, and J. Wirtz, "AI in marketing, consumer research and psychology: a systematic literature review and research agenda," *Psychology and Marketing*, vol. 39, no. 4, pp. 755–776, 2022, doi: 10.1002/mar.21619.
- [27] V. Venkatesh, M. G. Morris, G. B. Davis, and F. D. Davis, "User acceptance of information technology: Toward a unified view," *MIS Quarterly*, pp. 425–478, 2003, doi: 10.2307/30036540.
- [28] Y. Choi, H. Wen, M. Chen, and F. Yang, "Sustainable Determinants Influencing Habit Formation among Mobile Short-Video Platform Users," *Sustainability (Switzerland)*, vol. 13, no. 6, p. 3216, 2021, doi: <https://doi.org/10.3390/su13063216>.
- [29] S. Zhang, J. Zhao, and W. Tan, "Extending TAM for online learning systems: An intrinsic motivation perspective," *Tsinghua Science and Technology*, vol. 13, no. 3, pp. 312–317, 2008, doi: 10.1016/S1007-0214(08)70050-6.
- [30] H. Kraft, C. Munk, F. T. Seifried, and S. Wagner, "Consumption habits and humps," *Economic Theory*, vol. 64, no. 2, pp. 305–330, Aug. 2017, doi: <https://doi.org/10.1007/s00199-016-0984-1>.
- [31] A. Todri, P. Papajorgji, H. Moskowitz, and F. Scalera, "Perceptions regarding distance learning in higher education, smoothing the transition," *Contemporary Educational Technology*, vol. 13, no. 1, p. ep287, 2020, doi: 10.30935/cedtech/9274.
- [32] M. Wu, X. Xu, L. Kang, J. L. Zhao, and L. Liang, "Encouraging people to embrace feedback-seeking in online learning: An investigation of informational and relational drivers," *Internet Research*, vol. 29, no. 4, pp. 749–771, 2019, doi: 10.1108/IntR-04-2017-0162.
- [33] L. (Alice) Jiang, Z. Yang, and M. Jun, "Measuring consumer perceptions of online shopping convenience," *Journal of Service Management*, vol. 24, no. 2, pp. 191–214, 2013, doi: 10.1108/09564231311323962.
- [34] S. Benoit, S. Klose, and A. Ettinger, "Linking service convenience to satisfaction: dimensions and key moderators," *Journal of Services Marketing*, vol. 31, no. 6, pp. 527–538, 2017, doi: <https://doi.org/10.1108/JSM-10-2016-0353>.
- [35] P. Wasan, "Predicting customer experience and discretionary behaviors of bank customers in India TT - Predicting customer experience," *International Journal of Bank Marketing*, vol. 36, no. 4, pp. 701–725, 2018, doi: <https://doi.org/10.1108/IJBM-06-2017-0121>.
- [36] Y.-H. Chen and C.-J. Keng, "Utilizing the Push-Pull-Mooring-Habit framework to explore users' intention to switch from offline to online real-person English learning platform," *Internet Research*, vol. 29, no. 1, pp. 167–193, Jan. 2019, doi: 10.1108/IntR-09-2017-0343.
- [37] C.-L. Lin, Y. Q. Jin, Q. Zhao, S.-W. Yu, and Y.-S. Su, "Factors Influence Students' Switching Behavior to Online Learning under COVID-19 Pandemic: A Push–Pull–Mooring Model Perspective," *The Asia-Pacific Education Researcher*, vol. 30, no. 3, pp. 229–245, 2021, doi: 10.1007/s40299-021-00570-0.
- [38] M. Akcaoglu and E. Lee, "Increasing social presence in online learning through small group discussions," *International Review of Research in Open and Distance Learning*, vol. 17, no. 3, 2016, doi: 10.19173/irrodl.v17i3.2293.
- [39] A. L. Say, R. A. Guo, and C. Chen, "Altruism and social utility in consumer sharing behavior," *Journal of Consumer Behaviour*, vol. 20, no. 6, pp. 1562–1574, 2021, doi: <https://doi.org/10.1002/cb.1967>.
- [40] Y. J. Joo, K. Y. Lim, and E. K. Kim, "Online university students' satisfaction and persistence: Examining perceived level of presence, usefulness and ease of use as predictors in a structural model," *Computers and Education*, vol. 57, no. 2, pp. 1654–1664, 2011, doi: 10.1016/j.compedu.2011.02.008.
- [41] T. Zhou and W. Zhang, "Effectiveness Study on Online or Blended Language Learning Based on Student Achievement: A Systematic Review of Empirical Studies," *Sustainability (Switzerland)*, vol. 14, no. 12, p. 7303, 2022, doi: 10.3390/su14127303.
- [42] C.-W. Wei and N.-S. Chen, "A model for social presence in online classrooms," *Educational Technology Research and Development*, vol. 60, no. 3, pp. 529–545, 2012, doi: 10.1007/s11423-012-9234-9.
- [43] I. S. ve Moan and J. Rise, "Predicting smoking reduction among adolescents using an extended version of the theory of planned behaviour," *Psychology & Health*, vol. 21, no. 6, pp. 717–738, 2006, doi: 10.1080/14768320600603448.
- [44] J. de Pina-Cabral, "Afterword: What is an institution?" *Social Anthropology/Anthropologie Sociale*, vol. 19, no. 4, pp. 477–494, 2011, doi: 10.1111/j.1469-8676.2011.00173.x.
- [45] A. H. Hawley, "Human Ecology: Persistence and Change," *American Behavioral Scientist*, vol. 24, no. 3, pp. 423–444, Jan. 1981, doi: 10.1177/000276428102400307.
- [46] J. Dare et al., "Guidance for Research on Social Isolation, Loneliness, and Participation Among Older People: Lessons from a Mixed Methods Study," *International Journal of Qualitative Methods*, vol. 18, Jan. 2019, doi: 10.1177/1609406919872914.

- [47] G. Gunarso, "Game Theory of Regulator, Companies, and Cooperation in Indonesian Financial Technology Industry," *Jinnah Business Review*, vol. 10, no. 1, pp. 74–86, 2022.
- [48] G. Gunarso and J. Kembaren, "An Entrepreneur Point-of-View about Policies to Support Innovation in Sharing Economy Era," in *Leveraging Region with Economy, Social and Technology Collaboration*, 2019, pp. 65–76, doi: 10.2139/ssrn.3398122.
- [49] V. Venkatesh and F. D. Davis, "A theoretical extension of the technology acceptance model: Four longitudinal field studies," *Management Science*, vol. 46, no. 2, pp. 186–204, 2000, doi: 10.1287/mnsc.46.2.186.11926.
- [50] S. V. Scott, J. Van Reenen, and M. Zachariadis, "The long-term effect of digital innovation on bank performance: An empirical study of SWIFT adoption in financial services," *Research Policy*, vol. 46, no. 5, pp. 984–1004, 2017, doi: 10.1016/j.respol.2017.03.010.
- [51] P. W. C. Prasad, A. Maag, M. Redestowicz, and L. S. Hoe, "Unfamiliar technology: Reaction of international students to blended learning," *Computers and Education*, vol. 122, pp. 92–103, 2018, doi: 10.1016/j.compedu.2018.03.016.
- [52] R. A. Rasheed, A. Kamsin, and N. A. Abdullah, "Challenges in the online component of blended learning: A systematic review," *Computers and Education*, vol. 144, p. 103701, 2020, doi: 10.1016/j.compedu.2019.103701.
- [53] G. Gunarso, "Why Do Consumers Use Ride-Hailing? Evidence from China and Indonesia," *Binus Business Review*, vol. 14, no. 1, pp. 39–61, 2023.
- [54] A. Pugh *et al.*, "Impact of a financial incentive on the completion of educational metrics," *International Journal of Emergency Medicine*, vol. 13, no. 1, Dec. 2020, doi: <http://dx.doi.org/10.1186/s12245-020-00323-8>.
- [55] K. B. Freeman, "Human needs and utility maximization," *International Journal of Social Economics*, vol. 38, no. 3, pp. 224–236, 2011, doi: 10.1108/03068291111105174.
- [56] J. F. Hair Jr, M. Sarstedt, L. Hopkins, and V. G. Kuppelwieser, "Partial least squares structural equation modeling (PLS-SEM)," *European Business Review*, vol. 26, no. 2, pp. 106–121, Jan. 2014, doi: 10.1108/EBR-10-2013-0128.

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