



FACULTY OF
ECONOMICS
AND BUSINESS



Student's Satisfaction in Learning using MonsoonSIM: Case: Operation Management Course in FEBUI

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OUTLINE



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Findings

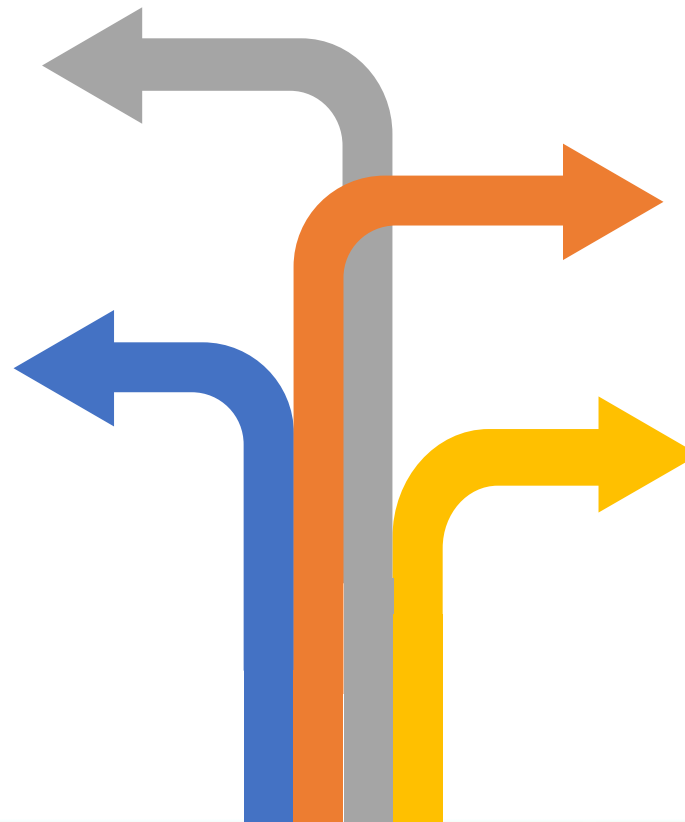
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Conclusions

1. Background

An initial step of
Gamification and/or
Simulation of learning in
Faculty of Economics and
Business

Usefulness of Gamification
in Learning Operation
Management



Operation Management
Course in FEBUI

Student satisfaction in
higher education

Research Objective



To determine the adoption of game-based learning technology using MonsoonSIM in Operation Management by looking at the factors that influence the student satisfaction

2. Literature Review (1/2)

Technology Adoption Model (TAM)

- A conceptual model to assess how students come to accept and use a technology (Granic and Marangunić, 2019).
- Perceived ease to use and perceived usefulness are significant factors affecting the acceptance of learning with technology (Scherer et al., 2019).
- TAM has been researched in various fields, even in Education Technology (Cakır & Solak, 2015; Ramírez-Correa et al., 2015).

Gamification in Education

- Gamification has been on a significant rise since 2014 (Zaric et al., 2017).
- It is defined as applying game design principles in non-gaming contexts (Robson et al., 2015, 2016) to motivate and interact with users (Hassan et al., 2019).
- Gamification in the education sector refers to the utilization of various gaming elements and gaming experiences during learning procedures (Sailer et al., 2017; Alshammari, 2020).

2. Literature Review (2/2)

Gamification Quality

Include content structure, response time, visual consistency, user support, and better navigation tools (Abdullah et al., 2016; Ullah et al., 2021)

Perceived Ease to Use

The degree an individual believes that using a particular system would be free of effort (Davis, 1989)

Research Variables

The degree to which an individual believes that using a particular system would enhance his or her productivity (Davis, 1989)

Shows positive and negative emotions when using Educational technology (Alrousan et al., 2021)

Perceived Usefulness

Student Satisfaction

3. Methodology (1/2)

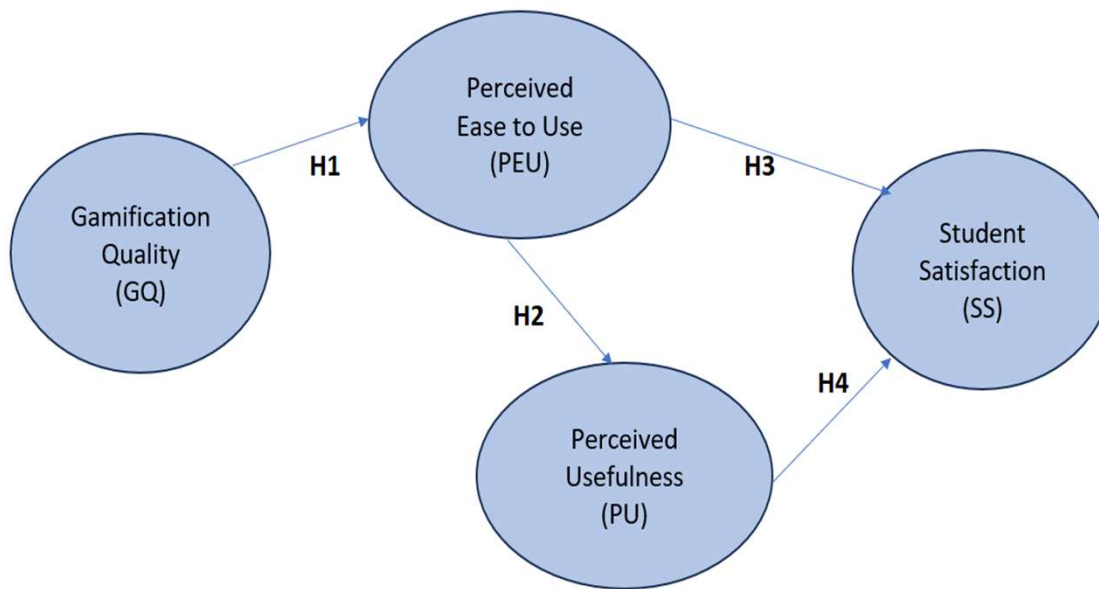


Figure 1. Research Model

Hypothesis

H1: Gamification quality has a positive impact on perceived ease to use of MonsoonSim

H2: Perceived ease to use of MonsoonSim has a positive impact on perceived usefulness of MonsoonSIM

H3: Perceived ease to use of MonsoonSIM has a positive impact on Student Satisfaction

H4: Perceived usefulness of MonsoonSIM has a positive impact on Student Satisfaction

3. Methodology (2/2)



- Quantitative and Cross Sectional
- Survey: online questionnaire (Google Form)
- 5 answer choices range from strongly disagree (1) to Strongly Agree (5) Model
- Measurement with 17 questions.



- Sample: 97 students that joined MonsoonSIM in the Operation Management FEBUI
- Nonprobability sampling (judgement-sampling)



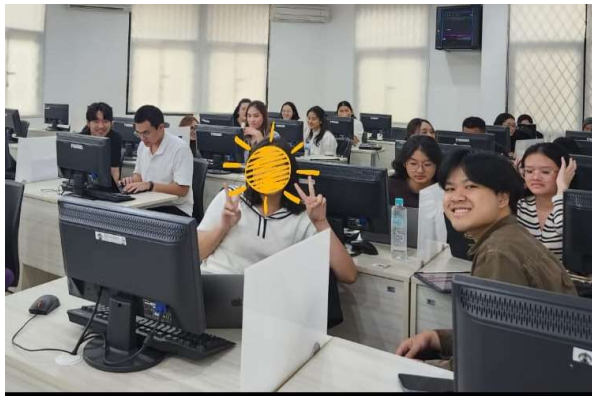
- Data: raw data and validation in Microsoft Excel
- Method: Structural Equation Model-Partial Least Square (SEM-PLS)
- Process: the SmartPLS 3.0 software

4. Findings: Respondent Profile



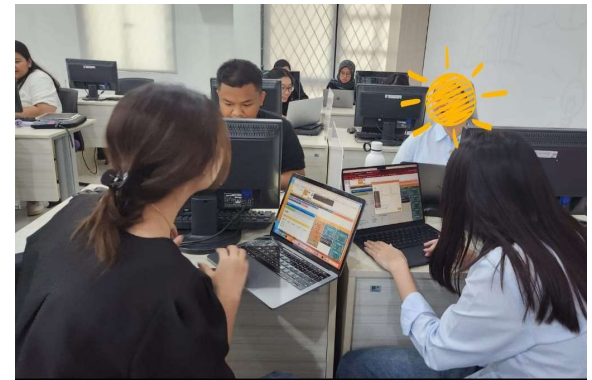
Program

- **International Class: 39%**
- Regular Class: 25%
- Extension Class: 36%



Batch

- 2021: 15%
- **2022: 85%**



4. Findings: Outer Model (1/2)

Variable(s)	Indicator	Outer Loadings	Average Variance Extracted (AVE)	Validity	Composite Reliability	Cronbach's Alpha	Reliability
Gamification Quality	GQ1	0.879	0.704	Valid	0.877	0.790	Reliable
	GQ2	0.791		Valid			Reliable
	GQ3	0.845		Valid			Reliable
Perceived Ease to Use	PEU1	0.912	0.778	Valid	0.933	0.904	Reliable
	PEU2	0.772		Valid			Reliable
	PEU3	0.932		Valid			Reliable
	PEU4	0.903		Valid			Reliable
Perceived Usefulness	PU1	0.907	0.783	Valid	0.935	0.907	Reliable
	PU2	0.863		Valid			Reliable
	PU3	0.872		Valid			Reliable
	PU4	0.897		Valid			Reliable
Student Satisfaction	SS1	0.900	0.752	Valid	0.948	0.934	Reliable
	SS2	0.907		Valid			Reliable
	SS3	0.874		Valid			Reliable
	SS4	0.871		Valid			Reliable
	SS5	0.812		Valid			Reliable
	SS6	0.836		Valid			Reliable

**Convergent Validity:
Outer Loading >0.6
AVE >0.5**

**Reliability:
Cronbach's >0.7
CR >0.7**

Table 1. Convergent Validity and Reliability

4. Findings: Outer Model (2/2)

Fornell-Lecker Criterion

	GQ	PEU	PU	SS
GQ	0.839			
PEU	0.830	0.882		
PU	0.617	0.622	0.885	
SS	0.654	0.658	0.827	0.867

Heterotrait-Monotrait Ratio Criterion

	GQ	PEU	PU	SS
GQ				
PEU	0,968			
PU	0,729	0,675		
SS	0,766	0,708	0,895	

Fornell-Lecker :
Diagonal > Correlation
Heterotrait-Monotrait Ratio <1

Outer Loading

	GQ	PEU	PU	SS		GQ	PEU	PU	SS
GQ1	0.879	0.741	0.543	0.525	PEU1	0.785	0.912	0.576	0.616
GQ2	0.791	0.599	0.510	0.559	PEU2	0.579	0.772	0.383	0.407
GQ3	0.845	0.737	0.504	0.569	PEU3	0.785	0.932	0.596	0.596
SS1	0.580	0.517	0.823	0.900	PEU4	0.754	0.903	0.605	0.665
SS2	0.557	0.577	0.756	0.907	PU1	0.555	0.561	0.907	0.709
SS3	0.457	0.533	0.681	0.874	PU2	0.514	0.493	0.863	0.737
SS4	0.523	0.602	0.716	0.871	PU3	0.528	0.556	0.872	0.713
SS5	0.626	0.597	0.629	0.812	PU4	0.585	0.590	0.897	0.767
SS6	0.665	0.610	0.683	0.836					

Table 2. Discriminant Validity

Outer loading of indicator within a construct is higher than other constructs

4. Findings: Inner Model

Table 3. Coefficients of Determinants

	R Square	R Square Adjusted	Conclusion
Perceived Ease to Use	0.689	0.686	Moderate
Perceived Usefulness	0.387	0.381	Moderate to Low
Student Satisfaction	0.718	0.712	Moderate to High

Table 4. Hypothesis Evaluation

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values	Conclusion
Gamification Quality -> Perceived Ease to Use	0.830	0.831	0.039	21.110	0.000	Significant
Perceived Ease to Use -> Perceived Usefulness	0.622	0.623	0.067	9.320	0.000	Significant
Perceived Ease to Use -> Student Satisfaction	0.234	0.234	0.090	2.589	0.005	Significant
Perceived Usefulness -> Student Satisfaction	0.682	0.682	0.074	9.252	0.000	Significant

4. Findings: Discussion

- Empirical data shows the R-square value of Student Satisfaction is 71,2% indicating that the developed model has a high capability to explain the constructs built between Student Satisfaction
- The better quality of gamification, the easier it is to use MonsoonSIM gamification
- Both Perceived to Ease to Use of MonsoonSIM and Perceived Usefulness has a positive impact on Student Satisfaction with Perceived Usefulness has the highest impact for students.
- What factors made it happened? When students feel that the menus are easy to use, can be accessed anywhere, the result can increase the essential benefits of learning Operation Management using MonsoonSIM and increase student satisfaction

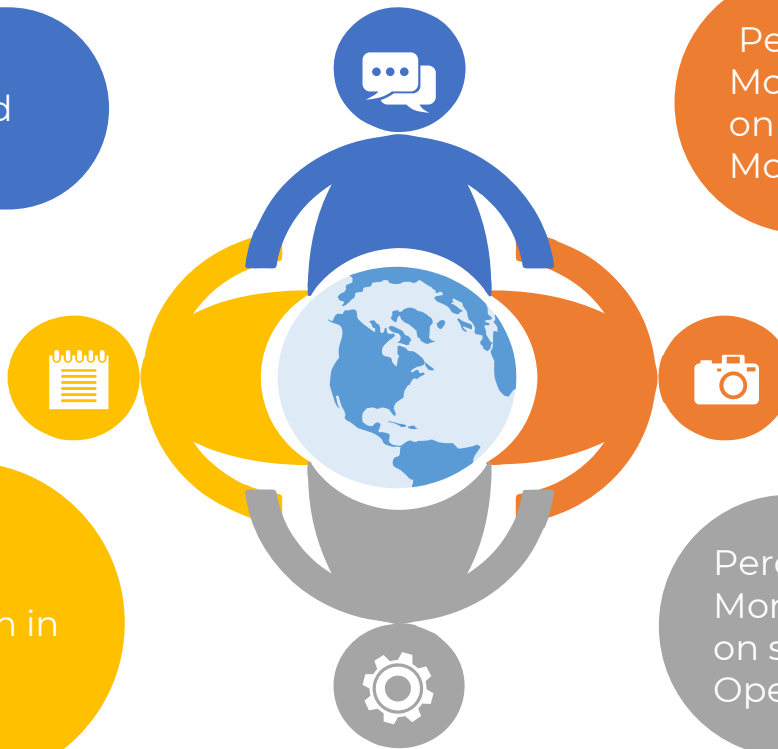
5. Conclusion

Gamification Quality has a positive impact on Perceived Ease to Use of MonsoonSIM

Perceived Ease to Use of MonsoonSIM has a positive impact on Perceived Usefulness of MonsoonSIM

Perceived Usefulness of MonsoonSIM has a positive impact on student satisfaction in learning Operation Management

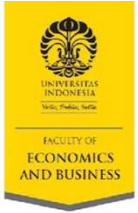
Perceived Ease to Use of MonsoonSIM has a positive impact on student satisfaction in learning Operation Management



Samples of Student's Feedback

- “While the learning process was super insightful, it was also fun”
- “It is a fun way to study operation management, it made me have a feel how it is to be an operation manager”
- “By using MonsoonSim in the lecturing session, I could understand the lecture material of Operation Management better”
- “ In the MonsoonSim session, I found the experience to be incredibly immersive and enjoyable. Our group discussions on strategic decisions like what products to purchase for our business store and when to restock were particularly insightful. It truly felt like we were navigating the challenges of real-world business operations. The simulation sparked thought-provoking conversations and encouraged us to think critically about our virtual business's success. Overall, it was a fantastic learning experience that left me feeling more prepared for real-world entrepreneurial endeavors”

Acknowledgement



- Center for Education and Learning in Economics and Business (CELEB) Faculty of Economics and Business Universitas Indonesia
- MonsoonSIM

THANK YOU



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Appendixes

Table 1 Variables Operationalization

No	Variable	Indicators	Scale	Source
1.	Gamification Quality (GQ)	I find it easy to get MonsoonSIM to do what I want (GQ1) MonsoonSIM is flexible to interact with (GQ2) Learning MonsoonSIM is easy for me (GQ3)	Likert 1-5	Ojo, 2017
2.	Perceived Ease of Use (PEU)	My interaction with MonsoonSIM is clear and understandable (PEU1) Interaction with MonsoonSIM does not require a lot of my mental effort (PEU2) I find MonsoonSIM to be easy to use (PEU3) I find it easy to get MonsoonSIM to do what I want it to do (PEU4)	Likert 1-5	Venkatesh & Bala, 2008
3.	Perceived Usefulness (PU)	Using MonsoonSIM improves my performance in my job (PU1) Using the Using MonsoonSIM in my job increases my productivity in my job increases my productivity (PU2) Using MonsoonSIM enhances my effectiveness in my job (PU3) I find MonsoonSIM to be useful in my job (PU4)	Likert 1-5	Venkatesh & Bala, 2008
4.	Student Satisfaction (SS)	By using MonsoonSIM, I can make the precise information for performing my job-related tasks (SS1) By using MonsoonSIM, my information needs can be met (SS2) By using MonsoonSIM, sufficient information for performing my job-related tasks can be provided (SS3) By using MonsoonSIM, accurate information for performing my job-related tasks can be provided (SS4)	Likert 1-5	Kim et al., 2007

Figure 1: Hypothesis testing

