Google Jamboard Interactive Smartboard: Are Innovative Approaches Useful In Personal Branding Assignments?

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Abstract.

COVID-19 lockdown has prompted educational initiatives all around the globe as it has become an extraordinary challenge stimulating students' e-learning process. Due to this current technological disruption we are facing, educators confront the task of preparing job-ready graduates for the post-COVID-19 world. Thus, this outbreak has proved the need of adopting collaborative e-learning tools that support tailored mentoring, and improve their hard and soft skills to join the current tech workforce. Although it is relevant to know students' perceptions regarding their performance with collaborative tools, precisely interactive smartboards, no studies were found during the extensive literature review conducted. A research model has been pre-tested using a sample of students that attended an online Personal Branding Course of the Faculty of Commerce and Tourism of the Complutense University of Madrid. The results of this exploratory research reveal that (1) playfulness is a driver of intention to use; (2) a significant effect of interestingness of content on perceived playfulness; and (3) a relevant impact of perceived ease of use on playfulness. Interestingly, perceived ease of use and usefulness were not found to have a direct effect on intention to use. The results are reviewed so as to offer valuable academic and educational contributions.

Keywords: interactive smartboards, e-learning, Google Jamboard, playfulness, intention to use

1. Introduction

This pandemic has forced educators to adopt all kind of technological approaches so as to encourage students learning process. Google Jamboard is an interactive smartboard where teachers and students are able to collaborate on a virtual whiteboard, which enables them the opportunity of fostering brainstorming ideas and creating sketches.

This research aims to establish the causal relationships that describe if the use of this collaborative e-learning tool enhances students' behavioural intentions. The model is pre-tested using Partial Least Squares Structural Equation Modelling (PLS-SEM).

2. Literature framework and hypotheses

2.1 Technological acceptance theory

Several theories have been widely employed to describe subjects' predisposition to accept and use technological advances. The most widespread are the Technological Acceptance Model (TAM)l[1,2], Theory of Planned Behaviour[3] and Unified Theory of Acceptance and Use of Technology (UTAUT)[4,5]. This research has employed TAM as the foundation of the proposed model as it is considered to offer the best explanations regarding subjects' attitudes and behaviour[6].

Although prior research has examined different educational issues of Google, no studies were found in the literature review conducted that deal with Google Jamboard performance. Hence, the following hypotheses were proposed:

H1: Perceived ease of use of Google Jamboard positively and significantly influences (a) students' intention to use, (b) perceive usefulness and (c)attitude.

H2: Perceived usefulness of Google Jamboard positively and significantly influences students' intention to use.

2.2 Entertainment drivers

Users seems to be predisposed to repeat a technological experience when they feel stimulated with the interestingness of the content and if they have a playfulness feeling. Thus, as prior studies had already confirmed these relationships in order contexts, it was hypothesized:

H3: Perceived playfulness of Google Jamboard positively and significantly influences (a) students' perceived ease of use, (b) perceive usefulness, (c) intention to use and (d) attitude.

H4: Interestingness of content of Google Jamboard positively and significantly influences students' perceived playfulness.

3. Methodology

3.1 Data collection

From June 29 to July 9, 2020 an online questionnaire was sent to a class of 40 students of an online Personal Branding course of the Faculty of Commerce and Tourism of the Complutense University of Madrid. A total of 19 usable questionnaires were collected.

Table 1. Profile of respondents (n=19)

Characteristics		Frequency	Percentage (%)
Gender			
	Female	11	57,9
	Male	8	42,1
Age			
	20-25	15	78,9
	26-30	3	15,8
	30-35	1	5,3
Education			
	University degree	13	68,4
	Master's	6	31,6

Figure 1: Proposed model.
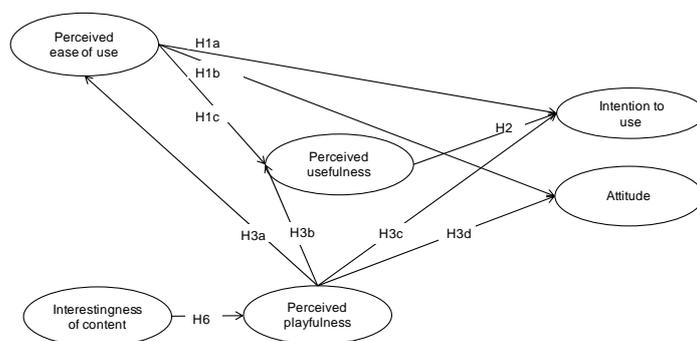
3.2 Measures

The model proposed in Figure 1 was used in the pre-test analysis. All the scales items were adopted from prior studies and rated on a seven-point Likert Scale (Table II).

Table II. Descriptive analysis.

Construct/Associated Items	Mean	Standard Deviation
Perceived usefulness (PU)		
1. Using this tool improves my performance in this course	5.200	1.720
2. Using this tool is useful to me in this course	5.550	1.687
3. Using this tool helps me accomplish my learning effectively	5.450	1.687
4. Using this tool makes my work easier in this course	5.250	1.728
Perceived ease of use (PE)		
1. It is easy to get this tool to do what I need to do	5.500	1.775
2. this tool is easy to use	6.000	0.949
3. My interaction with this tool is clear and understandable	5.850	1.526
4. It is easy to become skillful at using this tool.		
Attitude (AT)	6.450	0.740
1. I believe that using this tool is a good idea.	5.850	1.424
2. I believe that using this tool is advisable.	5.850	1.388
3. I am satisfied in using this tool.	5.700	1.487
Interestingness of content (IC)		
1. I think the content taught throughout this tool is interesting.	5.850	1.424
Playfulness (PL)		
1. I enjoy using this tool to receive my classes.	5.850	1.424
2. I feel this tool use is fun as way to received my classes.	5.600	1.497
Intention to use (IN)		
1. I plan to use this tool very often during next course.	5.250	1.479

1.1 Reliability and validity evaluation

The model was calculated using PLS-SEM as i tis an adequate technique for small sample sizes. Table III details the reliability and convergent validity test. Cronbach's alpha values accomplish the recommended value of 0.60. Average variance extracted (AVE) for each construct was superior to 0.50. All items were meaningfully ($p<.01$) related to their hypothesized factors, and standardized loadings were superior to 0.60. Regarding discriminant validity, the shared variance between pairs of constructs was inferior to the corresponding AVE (Table IV).

Table III. Reliability and convergent validity of the final measurement model.

Factor	Indicator	Standardized Loading	t-Value (bootstrap)	CA	rho_A	CR	AVE
Attitude	AT1	0.988	13.397	0.976	0.979	0.985	0.955
	AT2	0.979	11.396				
	AT3	0.965	32.888				
Interestingness of content	IC1	1.000		1.000	1.000	1.000	1.000
Intention to use	IN1	1.000		1.000	1.000	1.000	1.000
Perceived ease of use	PE1	0.894	17.231	0.890	0.902	0.926	0.758
	PE2	0.880	16.609				
	PE3	0.955	32.115				
	PE4	0.739	2.531				
Playfulness	PL1	0.962	32.170	0.957	0.959	0.969	0.888
	PL2	0.956	13.510				
Perceived usefulness	PU1	0.943	28.571	0.913	0.916	0.958	0.920
	PU2	0.957	38.489				
	PU3	0.992	95.491				

		PU4	0.875	12.861

Note: All loadings are significant at p < .01 level. CA = Cronbach's alpha; CR = composite reliability; AVE = average variance extracted.

Table IV. Measurement model discriminant validity for the higher-order construct.

Factor	1	2	3	4	5	6
1 Attitude	0.977					
2 Intention to use	0.757	1.000				
3 Interestingness of content	0.897	0.730	1.000			
4 Perceived ease of use	0.879	0.684	0.839	0.871		
5 Perceived usefulness	0.841	0.703	0.712	0.847	0.943	
6 Playfulness	0.842	0.841	0.823	0.837	0.867	0.959

Note: Diagonal values are AVE square root.

Table V. Evaluation of the estimated models.

Concept	R^2	Q^2
Attitude	0.788	0.728
Intention to use	0.657	0.546
Perceived ease of use	0.683	0.421
Perceived usefulness	0.777	0.684
Playfulness	0.659	0.474

1.2 Research findings

Results reveal that perceived ease of use and perceived usefulness do not have a significant effect on intention to use. However, the rest of linkages examined in the proposed model are significant and positive.

Table VI. Hypotheses testing.

Hypothesis	Path	Standardized Path Coefficients	t-value (bootstrap)	
H1a	Perceived ease of use -> Intention to use	-0.004	0.122	
H1b	Perceived ease of use -> Perceived usefulness	0.386	1.763	*
H1c	Perceived ease of use -> Attitude	0.568	3.769	***
H2	Perceived usefulness -> Intention to use	-0.083	0.263	
H3a	Playfulness -> Perceived ease of use	0.795	6.109	***
H3b	Playfulness -> Perceived usefulness	0.555	2.313	**
H3c	Playfulness -> Intention to use	0.878	2.812	***
H3d	Playfulness -> Attitude	0.350	2.042	**
H4	Interestingness of content -> Playfulness	0.759	4.646	***

Note: ***p<0.01; **p<0.05; *p<0.10

4. Discussion

This study adds value to prior studies related to e-learning tools by analysing the effect of the use interactive smartboard for fostering students' performance and extends findings concerning the adoption of TAM model in different innovative technological applications. Therefore, this research contributes to the understanding of the drivers of students' willingness to repeat the use e-learning tools as well as their perception regarding playfulness and interestingness of content. As future research lines, scholars are prompted to consider the limitations of this study. Precisely, the small sample of students could have led to bias. Researchers are encouraged to replicate this study in other universities or even other employee contexts.

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