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Determining the Factors That Affect Resistance to Digital News Subscription During the COVID-19 Pandemic

Luk Sheng Chin, Wei Heng Loh, Ming Fong Tan, Zhi Hui Tan, Xiu Ming Loh, Voon Hsien Lee and Garry Wei Han Tan

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Chin Luk Sheng[1], Loh Wei Heng[2], Tan Ming Fong[3], Tan Zhi Hui[4], Loh Xiu Ming[5], Lee Voon Hsien[6], Garry Tan Wei Han[7].

[1] Universiti Tunku Abdul Rahman, 31900 Kampar, Malaysia
nixonchinluksheng@1utar.my
[2] Universiti Tunku Abdul Rahman, 31900 Kampar, Malaysia
lohweiheng@1utar.my
[3] Universiti Tunku Abdul Rahman, 31900 Kampar, Malaysia
tanmingfong@1utar.my
[4] Universiti Tunku Abdul Rahman, 31900 Kampar, Malaysia
ZHui00@1utar.my
[5] Universiti Tunku Abdul Rahman, 31900 Kampar, Malaysia
lohxm@utar.edu.my
[6] Universiti Tunku Abdul Rahman, 31900 Kampar, Malaysia
leevh@utar.edu.my
[7] UCSI University, 56000 Cheras, Malaysia
GarryTan@ucsiuniversity.edu.my

Abstract. The subscription of digital services has increased due to the COVID-19 pandemic. However, this was not the same for digital news subscription which remained low. Therefore, this study looks to study the factors that influence the resistance to digital news subscription during the COVID-19 pandemic. In order to achieve this, the Innovation Resistance Theory was applied. Data was collected through an online survey that yielded 199 responses. Based on the results of the data analysis, two out of the five barriers were revealed to have insignificant relationships with resistance. With that said, value barrier, risk barrier, and image barrier were established as significant facilitators of resistance. Several insights were then proposed to news media companies. Moreover, this study fills the theoretical gap of comprehending the antecedents of resistance on digital news during the COVID-19 pandemic.

Keywords: Digital Resistance, Innovation Resistance Theory, Partial Least Squares-Structural Equation Modeling, COVID-19 Pandemic.

1 Introduction

Many innovations have been introduced to the general public in recent years as a result of rapid technological advancements. Some of these innovations have brought about significant changes to consumer behavior [1]. In particular, the internet has been serving as a catalyst when it comes to the digitalization of numerous everyday life activities. With that said, the widespread permeance of digital services have greatly improved our lives in many ways [2]. A digital alternative was afforded to the general public for the carrying out of daily activities which made it more convenient. Recently, the COVID-19 pandemic has further highlighted the significance of digital services in view of the rapid adoption of digital channels that were recorded all around the world [3].

Despite numerous digital services recording an overall surge in subscription during the COVID-19 pandemic [4], this was not the same for digital news in Malaysia. In particular, it was found that only 16% of Malaysians paid for digital news while in the midst of the COVID-19 pandemic [5]. This issue was further compounded by the decline in demand for printed newspaper. It was estimated that less than one million printed newspapers were sold daily which is a significant decline from its peak of 4.7 million copies sold daily in 2007 [6]. For a number of these companies, the aftermath of this decline was so significant that they ceased publication of its printed newspaper while some have totally shut down their operations [7].

The current study posits that above-mentioned issue is attributed to people's resistance towards digital news subscription. In general, resistance denotes the people's unwillingness to take a new or different action from the status quo [8]. Following that, resistance has widely been considered to be a key reason for the failure of countless innovative technologies and digital services [9,10]. Despite its significance, the studies on resistance has gotten comparatively lesser attention than adoption. As a result, there are substantially lesser studies on resistance in comparison to those on adoption [11].

Therefore, the objectives of this study are twofold: (1) to determine the barriers that influence the resistance to digital news subscription and (2) to establish the relevance of the Innovation Resistance Theory during the COVID-19 pandemic. Following that, this study is anticipated to provide numerous novel findings and insights. From the practical perspective, this study has significant contributions to business stakeholders. Particularly for digital news service providers, they would be able to develop business strategies that will reduce the resistance of subscription among their audience. Besides, this study will also contribute theoretically by extending current knowledge on resistance. More specifically, this study is among the scarce empirical studies to assess the effect of the Innovation Resistance Theory on digital news during the COVID-19 pandemic from a developing nation.

2 Literature Review

2.1 Innovation Resistance Theory

The Innovation Resistance Theory was introduced by Ram and Sheth [12] to serve as a theoretical framework to look into resistance. More specifically, the theory examines the barriers that would affect people's resistance towards innovative technologies and services. It has been postulated that people resist change because it tends to involve uncertainties and contradicts with current lifestyle habits [13]. Therefore, resistance is only a natural human response that plays a significant role in a person's behavior [14].

The Innovation Resistance Theory posits five barriers of resistance which are usage barrier, value barrier, risk barrier, image barrier, and tradition barrier [15]. These five barriers can be further categorized into active and passive resistance. Active resistance arises from the characteristics of a technology or service while passive resistance comes from the person's internal state [16]. With that said, the different facets of active resistance are captured by the functional barriers of usage barrier, value barrier, and risk barrier [17]. On the other hand, the different facets of passive resistance can be studied through psychological barriers which are image barrier and tradition barrier [11].

3 Hypotheses Development

3.1 Usage Barrier

Usage barrier refers to the perceived lack of usefulness by an individual towards a particular product or service [18]. Several past studies such as Kaur et al. [14] and Leong et al. [19] have found empirical support for the significant influence that usage barrier has on consumer behavior. Particularly in this research, non-subscribers may develop resistance as feel that subscribing to digital news would only result in an incremental increase of usefulness. Hence, the hypothesis below was developed:

H1: Usage barrier has a significantly positive relationship with resistance.

3.2 Value Barrier

Value barrier denotes the overall perceived lack of benefits when compared to the costs required to learn or use a particular service [19]. According to Mani and Chouk [20], value barrier typically refers to the perceived price of the service when it comes to the context of resistance. Value barrier is posited as relevant in this study given the fee required for the subscription of digital news. Hence, people would develop resistance if the fee is perceived to outweigh the benefits of subscribing to digital news. Overall, the hypothesis below was developed:

H2: Value barrier has a significantly positive relationship with resistance.

3.3 Risk Barrier

Risk barrier is related to the uncertainties that are inherent with the use of a service [21]. The risk can be categorized under financial, psychological, physical, or social. In this study, the risks involved with the subscription of digital news are financial, privacy, and security [13]. This is because resistance is higher when it involves financial transactions and high uncertainty [22]. Hence, the hypothesis below was developed:

H3: Risk barrier has a significantly positive relationship with resistance.

3.4 Image Barrier

Image barrier has been postulated to be present when an individual has a lack of self-image congruence [20]. More specifically, this happens when the individual feels that there is an incompatibility between his/her image and the image of the service. Subsequently, this situation would have an effect on the consumer's behavior [23]. In line with the above-mentioned, a number of past studies have found that image barrier has a significantly negative relationship with adoption intention [24,22]. As such, the following hypothesis was developed:

H4: Image barrier has a significantly positive relationship with resistance.

3.5 Tradition Barrier

Tradition barrier is involved when a user experience changes as a result of executing a certain action [18]. More precisely, tradition barrier is induced when the change is incompatible with the users' current norms, habits, and lifestyle [25]. This is because traditions are strongly embedded in the person and any possible conflict would result in strong resistance [14]. As such, the change in status from being a non-subscriber to a subscriber of digital news may result in resistance. Overall, the following hypothesis was developed:

H5: Tradition barrier has a significantly positive relationship with resistance.

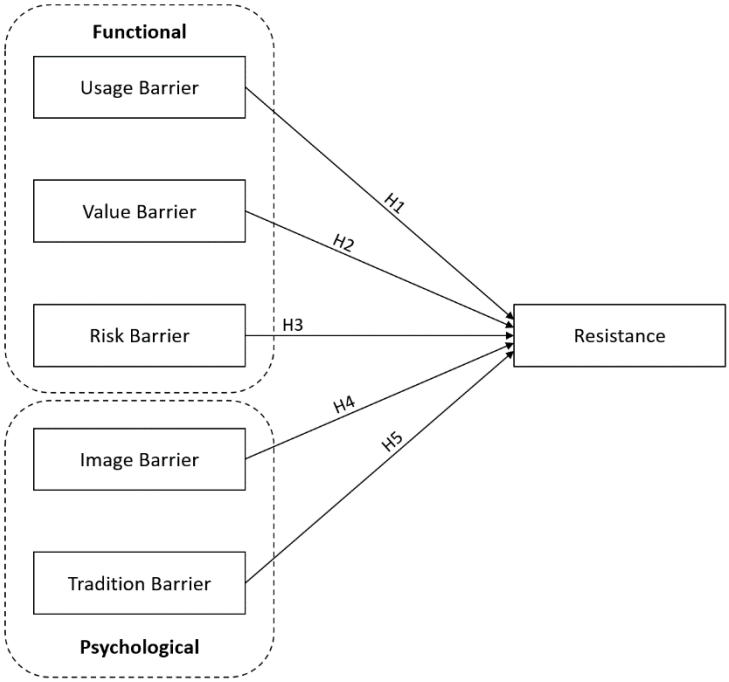

Fig. 1. Proposed Conceptual Model.

4 Methodology

In view of the subject matter of this study, youths who were non-subscribers of digital newspapers were selected as the target respondents. In addition, the non-probability technique of purposive sampling was used as there is no sampling frame available for the target respondents [26,27]. In particular, the screening question ("I currently subscribe to digital newspaper") was included at the survey's cover page. Only those who indicated "No" were retained to complete the survey. Besides, the minimum sample size was determined with the G*Power software [28,29] which indicated 92 responses. Overall, 199 usable responses were collected which were higher than the recommended minimum sample sizes.

Besides, an online survey was utilized to collect the data for this study [30,31]. More specifically, the survey contained three sections which are the (1) cover page, (2) demographic, and (3) measurement items. The cover page included a brief introduction of the study and screening question while the demographic section captured the respondents' gender, age, occupation, and personal income. The final section included items that measured the dependent variable of resistance (three items) and independent variables of usage barrier (three items), value barrier (four items), risk barrier (five items), and image barrier (three items) with a 5-point Likert scale. Subsequently, the responses collected were analyzed with the PLS-SEM technique [32,33].

5 Analysis

5.1 Demographic Profile

As per Table 1, more than half of the respondents are female (54.77%), students (59.30%), and have a monthly allowance of RM999 and below (58.29%).

Table 1. Descriptive Analysis.

Characteristics	Description	Count	Percentage
Gender	Male	90	45.23
	Female	109	54.77
Age	19 years old and below	11	5.53
	20-29 years old	188	94.47
Occupation	Student	118	59.30
	Employee	68	34.17
	Self-Employed	6	3.02
	Unemployed	7	3.52
Personal Income / Allowance (per month)	RM999 and below	116	58.29
	RM1,000-RM1,999	28	14.07
	RM2,000-RM2,999	22	11.06
	RM3,000-RM3,999	20	10.05
	RM4,000-RM4,999	9	4.52
	RM5,000 and above	4	2.01

5.2 Common Method Bias (CMB)

The issue of CMB was assessed in this study as only one data collection tool was utilized. Based on Table 2, it can be concluded that CMB is not present as all Ra values were significant ($p<0.001$) [34]. This is in addition to the significantly higher average of Ra^2 (0.797) when compared to Rb^2 (0.001) [35,36].

Table 2. Common Method Bias

Construct	Indicator	Substantive factor loading (Ra)	Ra^2	Method factor loading (Rb)	Rb^2
Resistance	RES1	0.827***	0.684	-0.021 ^{NS}	0.000
	RES2	0.713***	0.508	0.077 ^{NS}	0.006
	RES3	0.756***	0.572	-0.060 ^{NS}	0.004
Usage Barrier	UB1	0.938***	0.880	-0.244***	0.060
	UB2	0.711***	0.506	0.196**	0.038
	UB3	0.769***	0.591	0.018 ^{NS}	0.000
Value Barrier	VB1	0.955***	0.912	-0.178*	0.032
	VB2	0.835***	0.697	-0.046 ^{NS}	0.002
	VB3	0.872***	0.760	0.013 ^{NS}	0.000
	VB4	0.550***	0.303	0.227*	0.052
Risk Barrier	RB1	0.753***	0.567	0.073 ^{NS}	0.005
	RB2	0.940***	0.884	-0.157**	0.025
	RB3	0.855***	0.731	-0.124*	0.015
	RB4	0.756***	0.572	0.067 ^{NS}	0.004
	RB5	0.597***	0.356	0.162*	0.026
Image Barrier	IB1	0.970***	0.941	-0.198**	0.039
	IB2	0.752***	0.566	0.138*	0.019
	IB3	0.795***	0.632	0.047 ^{NS}	0.002
Tradition Barrier	TB1	0.789***	0.623	0.070 ^{NS}	0.005
	TB2	0.792***	0.627	0.007 ^{NS}	0.000
	TB3	0.816***	0.666	-0.085 ^{NS}	0.007
Average		**0.797**	**0.646**	**0.001**	**0.016**

Note: *** = $p<0.001$; ** = $p<0.01$; * = $p<0.05$; ^{NS} = $p>0.05$

5.3 Measurement Model Assessment

Based on Table 2, reliability was determined as all constructs recorded a Composite Reliability value of above the threshold of 0.7 [37,38]. Moreover, convergent validity was established as all values for average variance extracted are above 0.5 [39,40] whereas multicollinearity was absent as all values for variance inflation factor were lower than 5 [41,42].

Table 3. Reliability, Convergent Validity, and Multicollinearity

Construct	Composite Reliability	Average Variance Extracted	Variance Inflation Factor
Resistance	0.809	0.586	-
Usage Barrier	0.836	0.632	1.946
Value Barrier	0.882	0.652	2.159
Risk Barrier	0.888	0.613	1.297
Image Barrier	0.874	0.698	2.618
Tradition Barrier	0.838	0.634	1.916

As shown in Table 3, discriminant validity was also found to be present as every value for the original sample is below 0.9 [43,44]. This was further confirmed by the 2.5% and 97.5% confidence intervals which were all lower than 1 [45,46].

Table 4. Discriminant Validity

Path	Original Sample	Mean Sample	Confidence Interval	
			2.5%	97.5%
RES→RB	0.557	0.565	0.420	0.697
RES→IB	0.746	0.754	0.622	0.879
UB→RES	0.706	0.717	0.573	0.853
UB→RB	0.478	0.484	0.324	0.641
UB→IB	0.814	0.814	0.688	0.928
UB→TB	0.676	0.671	0.489	0.823
VB→RES	0.777	0.780	0.639	0.914
VB→UB	0.801	0.800	0.669	0.923
VB→RB	0.460	0.463	0.344	0.569
VB→IB	0.858	0.858	0.763	0.942
VB→TB	0.701	0.698	0.574	0.812
RB→IB	0.474	0.480	0.357	0.602
TB→RES	0.631	0.635	0.476	0.779
TB→RB	0.546	0.561	0.393	0.726
TB→IB	0.859	0.860	0.740	0.974

Note: RES = Resistance; UB = Usage Barrier; VB = Value Barrier; RB = Risk Barrier; IB = Image Barrier; TB = Tradition Barrier.

5.4 Structural Model Assessment

With reference to Table 5, three out of the five hypotheses were supported at a significance level of 0.05. More specifically, the significant relationships were between value barrier (β=0.287, $p<0.01$), risk barrier (β=0.180, $p<0.01$), and image barrier (β=0.157, $p<0.05$) with resistance. These relationships correspond to H2, H3, and H4 respectively. Given the positive coefficient values for the above-mentioned hypotheses, they indicate that value barrier, risk barrier, and image barrier are significant facilitators of resistance. Contrarily, empirical support was not ascertained for H1 and H5. In other words, usage barrier and tradition barrier are insignificant antecedents of resistance. The results pertaining to the research model's predictive capabilities are provided in Table 6. More precisely, the value of Q^2 for resistance exceeds 0 which established the structural model's predictive relevance [47, 48]. Additionally, the research model captured an R^2 value of 0.408. In other words, it was able to account for 40.8% of the variance in resistance.

Table 5. Hypotheses Testing

Hypothesis	Relationship	Path Coefficient	t-value	p-value	Remark
H1	UB → RES	0.136	1.351	0.089	Not Supported
H2	VB → RES	0.287	2.738	0.003	Supported
H3	RB → RES	0.180	2.718	0.003	Supported
H4	IB → RES	0.157	1.722	0.043	Supported
H5	TB → RES	0.038	0.476	0.317	Not Supported

Note: RES = Resistance; UB = Usage Barrier; VB = Value Barrier; RB = Risk Barrier; IB = Image Barrier; TB = Tradition Barrier.

Table 6. Predictive Relevance (Q^2) and Power (R^2)

Construct	SSO	SSE	Q^2 (=1-SSE/SSO)	R^2
Resistance	597.000	471.320	0.211	0.408
Usage Barrier	597.000	597.000		
Value Barrier	796.000	796.000		
Risk Barrier	995.000	995.000		
Image Barrier	597.000	597.000		
Tradition Barrier	597.000	597.000		

5.5 Importance-Performance Map Analysis (IPMA)

Furthermore, this study followed the footsteps of Wang et al. [49] and Yan et al. [50] to further extend the results of the PLS-SEM by carrying out the IPMA. In particular, the aim was to determine the antecedent with a high importance has low performance for the target construct of resistance [51,52]. According to Table 6, value barrier was determined as the exogenous construct with the highest importance but lowest performance.

Table 6. Importance Performance Map Analysis

Antecedent	Target Construct	Importance	Performance
Usage Barrier	Resistance	0.136	53.115
Value Barrier		0.287	47.814
Risk Barrier		0.180	63.358
Image Barrier		0.157	48.439
Tradition Barrier		0.038	57.082

6 Discussion

Based on the results, usage barrier was found to have an insignificant effect on resistance. This can be attributed to the business models that news companies use in the online setting. In particular, the majority of digital news platforms employ a subscription model which requires readers to pay a fee every month in order to access the articles. However, in an effort to entice the users to subscribe, they also provide a limited number of articles for free as samples [53]. Hence, usage barrier would not be an issue as youths would already be somewhat accustomed to reading digital news. Besides, tradition barrier was also found to be an insignificant antecedent of resistance. This is because reading in general and news in particular is not a typical activity of young people [54]. As such, there would be no existing tradition that would serve as a barrier to resist subscribing to digital news.

Besides, value barrier was found to be the most significant facilitator of resistance. This can be attributed to the majority of youths being students and have low income/allowance. As a fee is involved when subscribing to digital news, they may decide to find alternative ways to read digital news. For example, digital news sites that allow users to read all the articles for free as they look to gain revenue through the advertising model. Moreover, risk barrier is also another significant facilitator of resistance. In particular, all respondents for this study did not subscribe to digital news. Thus, they would be uncertain about the risks that the subscription process may entail. These risks include privacy and security concerns [45] as users would have to provide personal details such as payment information when subscribing to digital news. Finally, image barrier was also revealed as a significant

antecedent of resistance. This could be due to the perceptions of youths that reading the news is boring. Therefore, youths who subscribe to digital news and read it regularly may be seen as weird among their peers [24].

From the results, a few managerial implications can be derived to help news media companies in developing strategies that would reduce the youths' resistance to digital news subscription. Firstly, they should provide a subscription package specifically catered for students. In particular, the subscription fee for this student package should be lower than normal packages. Additionally, the news media companies should require a picture of the student card to ensure the authenticity of those who subscribe for this package. Besides, news media companies should regularly notify their users about the privacy and security measures that are in place to safeguard their personal information. Furthermore, they should constantly look to update these measures according to the latest best practices in digital privacy and security. These could include implementing two-factor authentication with biometrics.

Theoretically, this study has been successful in extending the literature of resistance in several ways. Firstly, this study was contextualized to the digital news setting. This is believed to be significant as resistance to digital news subscription is relatively understudied despite having been around for many years [55]. Furthermore, this study focused the issue of resistance to digital news subscription among youths. This is important because the general public often stereotype this group of people to be tech-savvy and always ready to embrace digitalization [56]. With that said, this study reveals that there are instances in which youths would resist certain aspects of the digital setting. Besides, this study was conducted when the COVID-19 pandemic was still a significant threat. Following that, a unique setting of this issue was captured by this study.

There are several limitations that were identified in this study. In particular, this study adopted the Innovation Resistance Theory in its entirety. As 40.8% of the variance for resistance was captured in this study, this implies that there are other significant factors that were not included. Therefore, future studies should look to extend this theoretical model with other antecedents of resistance. Besides, this study employed a cross-sectional approach in which the data were only collected at one point in time [57,58]. With that said, the data do not warrant the analysis and capture of changes between different periods of time. Therefore, future studies should use a longitudinal approach to better capture the underlying trends of this situation.

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