Consumer Acceptance of Online Behavioural Advertising: Role of Persuasion Knowledge and Protection Motivation

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[Abstract] Recent decades have witnessed a phenomenal growth of the digital advertising industry where advertisers are leveraging the power of the data-driven form of online advertising widely recognized as Online Behavioral Advertising (OBA). As the world moves further with internet penetration and developments in ICT, it becomes imperative to understand how consumers feel and respond to behavioral targeting practices like online behavioral advertising. The present study integrates constructs from the Persuasion Knowledge Model and Protection Motivation Theory to investigate the consumer acceptance behavior towards online behavioral advertising. The study employed an online survey method for data collection and reliability and validity of the instrument was established through confirmatory factor analysis which was followed by multiple regression for the data analysis. Findings exhibit a significant influence of the perceived benefits from online behavioral advertising on the consumer acceptance for OBA which are positive in nature. The perceived risk exhibits a negative and significant relationship with consumer acceptance for OBA. Persuasion Knowledge was not found significant in influencing consumer acceptance for OBA.

[Keywords] online behavioural advertising (OBA), persuasion knowledge model (PKM), perceived benefits, perceived risk, protection motivation

Introduction

With the multi-fold increase in the Internet usage and the growth of the digital advertising industry, advertisers are leveraging the power of the data-driven form of online advertising widely recognized as Online Behavioural Advertising (OBA), also known as personalised advertising, targeted advertising, interest-based advertising, or behavioural targeting. OBA is defined as the adjustments to advertisements in accordance with the previous online surfing behaviour of an individual (Smit, Van Noort, & Voorveld, 2014) and is among the most effective approaches for advertisers to use in their campaigns since it enables even more accurate targeting (Keller, 2016). OBA works its way by monitoring the online behaviour of users and exploits the information thus received to show targeted advertisements to individuals. (Boerman, Kruikemeier, & Zuiderveen Borgesius, 2017).

The advancement of the digital age as well as the recent occurrence of the pandemic has led almost everyone to shift towards increased usage of the Internet for one or another reason. As a result, advertisers have begun to reach out to consumers through internet advertisements. According to the research, the Indian advertising business is rated third in the world in terms of ad spend, with digital ad expenditure alone surpassing 160 billion rupees in 2019 and estimated to soar by 28% by 2024 (Diwanji, 2019).

The divide between online and offline is gradually blurring with technological advancements. Soon, firms will be providing adverts based on online behavioural information gathered from not only users' computers and smartphones but also from IoT devices, and inter-related technological devices (Varnali, 2021). In addition, the number of cases of consumers' personal information being misused and

data privacy breaches is on the rise. This substantially enhances the importance of research in the field of Online Behavioural Advertising.

Literature Review

According to previous studies, a significant difficulty with online behavioural targeting is that most individuals are unfamiliar with and uninterested in the process of behavioural targeting used by advertisers. (McDonald & Cranor, 2010; Turow et al., 2009). Consumers find online behavioural advertising sometimes helpful, but at the same time, they find it creepy too (Bleier & Eisenbeiss, 2015; Noort, Smit & Voorveld, 2013; Ur et al., 2012). Consumers develop scepticism when they perceive that their behaviour is being targeted and the privacy concerns arise (Zarouali et. al., 2017).

Consumer perceptions regarding targeted online behavioural advertising and its effectiveness has been studied by Bright and Daugherty (2012) and Lu et al. (2016). Kusumawati (2017) outlines the social media involvement in determining the consumer attitudes towards OBA while Gironda and Kargaonkar (2018) compares the consumer perceptions regarding invasive and tailored advertisements. Van Reijmersdal (2017) studies the processes of OBA and their effects specifically among the children.

Despite academicians and practitioners making the argument that OBA is a practical advertising approach, the practice has elevated concerns about privacy in the minds of a majority of consumers when they start understanding that they are being tracked over the Internet by various organisations, which again upsets the consumer and tends to leave them with no choice but to avoid such advertisements (Baek & Morimoto, 2012; McDonald & Cranor, 2010).

Ham and Nelson (2016) and Ham, Nelson and Das (2016) investigate the factors affecting the coping behaviour of consumers towards online behavioural advertising and explore the role played by persuasion knowledge in influencing the consumer attitude and OBA avoidance behaviour.

As the world moves further with internet penetration and developments in ICT, understanding how consumers feel and respond to behavioural targeting practices like online behavioural advertising has become crucial. The research in this field is particularly lacking in India and there is a dearth of any comprehensive study on this subject in India.

Objectives and Hypothesis

The study primarily aims at investigating the consumer acceptance behaviour towards online behavioural advertising. The present study integrates constructs from the Persuasion Knowledge Model (Friestad & Wright, 1994) and Protection Motivation Theory (Rogers, 1975) to investigate the consumer acceptance behaviour towards online behavioural advertising. By combining these constructs, the model (Figure 1) is expected to provide greater insights regarding the consumer behaviour towards OBA.

Figure 1
Proposed Model for the study
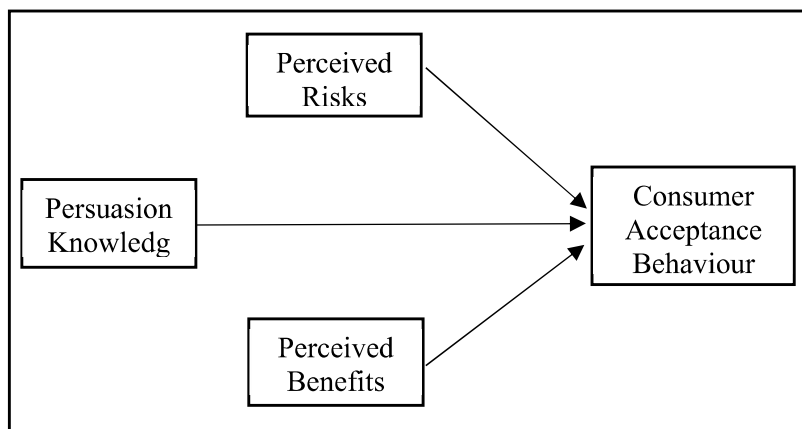
Based on the thorough review of previous research, we posit:

      H1: Persuasion Knowledge about online behavioural advertising has a significant impact on consumer acceptance of OBA.

      H2: Perceived Benefits about online behavioural advertising has a significant positive impact on consumer acceptance of OBA.

      H3: Perceived Risks about online behavioural advertising has a significant negative impact on consumer acceptance of OBA.

Methodology

Sample and Data

An online questionnaire was circulated through social media platforms and via direct emails for data collection. Sample size requirement was calculated by conducting power analysis through G*Power software (Faul et. al. 2007). For 0.85 power with expected effect size of 0.05 and 5 percent significance level, the minimum required sample size comes out to be 146. Total 168 responses were received, from which 11 were removed as those were incomplete and unengaged responses. Finally, 157 responses were used for the study which was above the required sample size of 146.

Measurement Instruments

This study adapted question items from measurement scales used in previous studies for different contexts and modified those to fit the context of the present study. The questionnaire was pretested to achieve the appropriateness of the questionnaire and to understand whether the questions are clear and grammatically correct. The questionnaire was then modified as per the feedback received.

Persuasion Knowledge is defined as the knowledge about how OBA operates and was measured using 6 item scale based on the study of Bearden, Hardesty and Rose (2001), Ham and Nelson (2016), and Ham (2017). Consumers are expected to behave differently in terms of acceptance of OBA in accordance with their awareness regarding the technical aspects and functioning of OBA. The concepts of Perceived Risk and Perceived Benefits are drawn from the Protection Motivation Theory.

A consumer is expected to weigh the relative benefits and risks associated with OBA in determining the acceptance for the same. Perceived risk was computed by multiplying four items of perceived severity and corresponding items of perceived vulnerability based on the work of Ham (2017). Similarly, Perceived Benefit was also computed by multiplying five items of reward belief and corresponding items of beneficiality derived from Ham (2017). Consumer Acceptance was measured using 3 item scale adopted from Gironda and Korgaonkar (2018) and Ham and Nelson (2016).

Instrument Reliability and Validity was established through Confirmatory Factor Analysis which was followed by the second step of Multiple Regression Analysis conducted with Consumer Acceptance as the dependent variable and Persuasion Knowledge, Perceived Benefits and Perceived Risk as the independent variables.

Data Analysis and Results

Reliability Analysis was performed to obtain insight into the internal consistency of the adapted measurement instrument. Cronbach Alpha was calculated to test the reliability of individual subscales present in the measurement instrument. Values greater than 0.7 reflect that the scale is reliable for measurement (Hair et. al., 2009).

Table 1

Reliability and Convergent Validity Analysis

	Loadings	Cronbach's Alpha	Composite Reliability	AVE
Acceptance (AC)				
AC1	0.878			
AC2	0.910	0.889	0.931	0.818
AC3	0.923			
Persuasion Knowledge (PK)				
PK1	0.779			
PK2	0.776			
PK3	0.735	0.930	0.947	0.782
PK4	0.753			
PK5	0.804			
PK6	0.654			
Perceived Benefits (PB)				
PB1	0.852			
PB2	0.901			
PB3	0.880	0.922	0.944	0.809
PB4	0.889			
PB5	0.898			
Perceived Risks (PR)				
PR1	0.898			
PR2	0.917	0.846	0.886	0.565
PR3	0.894			
PR4	0.889			

As presented in Table 1, all Average Variance Extracted (AVE) values were found to be above 0.5 confirming convergent validity. Table 2 displays the Discriminant validity analysis which was established using the Fornell-Larcker criterion (Fornell & Larcker, 1981) and the square root of each construct's AVE was found to be higher than its correlation with another construct.

Table 2

Discriminant Validity: Fornell-Larcker Criterion

	AC	PB	PR	PK
Acceptance (AC)	**0.904**			
Perceived Benefits (PB)	0.568	**0.884**		
Perceived Risks (PR)	0.040	0.221	**0.900**	
Persuasion Knowledge (PK)	0.125	0.313	0.341	**0.752**

Multiple Regression Analysis was conducted after checking for normality, heteroscedasticity and multicollinearity among the independent variables. The normal P-P plot and plot of predicted values with residuals confirmed that the data is normal and homoscedastic. All the Variance Inflation Factor (VIF) values are below 3 confirming that there is no issue of multicollinearity in the variables. The regression results are given in Table 3.

Table 3
Multiple Regression Results

	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics
Variable	B	Std. Error	Beta	t	Sig.	VIF
(Constant)	3.154	.508		6.207	.000	
Persuasion Knowledge (PK)	-.033	.098	-.022	-.335	.738	1.196
Perceived Risks (PR)	-.057	.005	-.625	-9.184	.000	1.142
Perceived Benefits (PB)	.074	.008	.587	9.348	.000	1.123
R Squared	0.541					
Adjusted R Square	0.528					

   The regression results show that there is a significant positive influence of the perceived benefits from online behavioural advertising on the consumer acceptance for OBA. On the other hand, the perceived risk exhibits a negative and significant relationship with consumer acceptance for OBA. The influence of persuasion knowledge was not found to have any significant influence on consumer acceptance of online behavioural advertising.

Conclusion and Implications

Academicians and researchers require reliable and valid measurement instruments to accurately measure different dimensions and aspects surrounding any aspect of consumer behaviour to explore and gain a statistically significant understanding of that behaviour. The majority of OBA research is fragmented and conducted only in the developed countries like the United States, China, and European countries such as Belgium, with well-established and pre-validated scales used to assess knowledge, perception, attitude, and behavioural intention and outcomes (purchase intention) in the studies. However, there has been little research on this aspect in the Indian market.

   This study attempts to investigate the role of persuasion knowledge, and protection motivation factors of perceived benefits and perceived risks in influencing consumer acceptance for online behavioural advertising. The study results show that perceived benefits and perceived risks are significant in influencing the consumers' acceptance for OBA. These results are in line with previous studies like Ham and Nelson (2016) and Ham (2017). This also exhibits that the consumers have an ambivalent attitude towards OBA acceptance and further research is needed to confirm any indirect effects between persuasion knowledge, perceived benefits and perceived risks. The relationship between persuasion knowledge and acceptance of OBA has not turned out to be significant in contrast with studies like Bearden, Hardesty and Rose (2001) and Ham and Nelson (2016). This may be due to the fact that the awareness and knowledge about OBA concept and its functioning technicalities is very limited in Indian consumers which may have led to the results being insignificant.

   The limitations of the present study lie in the fact that the study has been conducted online only and cannot be generalize for the non-internet users who can be the potential OBA targets as and when they join the internet user segment with growth in internet connectivity in India. Further research can be taken up with a larger sample including both internet users and non-internet users. Indirect relationship of persuasion knowledge with consumer acceptance for OBA may also be explored with relevant variables as mediators.

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