

Personalisation in Location-based Advertising: The Moderating Effect of Brand Familiarity

(Full Paper)

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ABSTRACT

The increasing adoption of location-based services and smart devices have propelled optimistic forecasts for location-based advertising as a unique and effective tool to improve consumers' attitude and purchase intention towards goods and services. While so, concerns regarding over the use of personalisation in a LBA context is prevalent. Given so, this study examines the influence of personalisation tactics on attitudes and purchase intention towards a focal product, with brand familiarity as a moderating factor, in the context of location-based advertising. It is hypothesized that high personalisation improves attitude towards a focal product and secondly, that high brand familiarity aids the resulting outcome of personalisation. Finally, it is hypothesized that attitude is positively related to purchase intention.

As a central part of the study, an experiment involving 100 participants was conducted. The experiment's stimuli involved the presence and absence of personalisation and brand familiarity respectively, forming a total of four equal participant groups. It was found that personalisation positively affects the effects of location-based advertising; while brand familiarity indeed moderates the effects of personalisation on attitudes. Specifically, high brand familiarity allows for heightened effects of personalisation on attitudes, while in low brand familiarity situations, the effects of personalisation in a location-based ad is negligible. Since so, brand familiarity is an evidenced boundary condition for the effective application of location-based advertising.

The study supports past research in establishing that brand familiarity lowers perceived risks and increases trust for location-based advertising, and that personalisation allows for more effective marketing messages. From a practical perspective, marketers of well-known brands should look to personalisation in location-based marketing opportunities to exploit their inherent brand value. On the other hand, less-known brands should look to improve their brand familiarity before applying personalisation in location-based ads.

Keywords: Location-based advertising, personalization and brand familiarity.

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INTRODUCTION

The "Global Location Trends Report 2016" by the Location Based Marketing Association (LBMA) reports that 75% of 253 global marketers, including that of BMW, Coca-Cola and Starbucks believe that Location Based Advertising (LBA) will open new doors for increased profits (Location Based Marketing Association [LBMA], 2017). In 2017, LBMA (2017) reports rising proportions of marketing budgets spent on LBA. The rising growth in popularity of wearables and heightened smartphone penetration rates presents marketers an unrivalled opportunity to deliver timely purchase triggers on a geographically targeted basis (Xu, Luo, Carroll, & Rosson, 2009). This is so, especially for brands who own retail stores or depend on physical footfall for events or roadshows.

LBA can be viewed as a subset of Location-Based Services (LBS), of which includes the mobile delivery of directions to places of interest, traffic information, emergency notifications and community services upon entering a geographically fenced area (Bruner & Kumar, 2007). LBA, on the other hand, is a specific type of mobile advertising which is delivered in accordance with a location trigger. This study adopts the following definition of LBA, which is refined from that of Bruner and Kumar (2007); LBA is thought to be a marketer-initiated mobile notification, customized for the recipient's geographic position. In context of this definition, LBA takes on the traditional significance of real-time marketing to meet consumers' needs at the correct time and place, as proposed by Oliver, Rust, and Varki (1998). At the same time, LBA undertakes a fresh medium for the consumers of today: mobile devices. While mobile devices take on varied forms like handheld laptops, e-readers, portable music players, for this study, mobile devices will be broadly defined as any handheld device that is capable of transmitting text advertisements according to an individual's geographic position.

LBA finds its significance in directly contributing to higher return-on-marketing-investment (ROMI). In many instances, LBA directly triggers increases in footfall, visits to stores and consequently transactions. According to statistics from eMarketer (2016),

global smartphone users will reach the 2.5 billion mark by 2018. Despite the rapid adoption of mobile connectivity, Forbes Corporate Communications (2016) reports that over 90% of retail transactions continue to occur in brick-and-mortar outlets. This implies that marketers should not merely seek to replace offline experiences with online ones, instead look to enable timely and seamless purchase processes that facilitate online-offline consumer journeys.

Presently, marketers are faced with a more complex consumer decision-making process, with personal, situational and physical factors affecting their decision-making processes more than ever. While LBA, a double-edged sword, presents unrivalled micro-targeting opportunities, brands at large hesitate to apply it today given certain scepticisms. Overarching considerations include limited indoor location technology and a premature, fragmented location ecosystem globally (Xu et al., 2009). An impeding factor for merchants at large includes user acceptance of such personalised marketing tactics, of which a rejection may create a negative backlash that is ultimately detrimental for the brand (White et al., 2007).

On this note, a clarification between the concepts of personalised marketing and LBA is necessary. Strictly speaking, LBA is a subset of personalised marketing, whereby individualized content is delivered to consumers through the use of automation technology. In this case, the basis of personalisation is the consumer's location. Other bases for personalisation marketing include consumers' preferences, behavioural tendencies and demographic characteristics. Given that LBA is a form of personalisation marketing, this study seeks to observe the effectiveness of further application of personalisation tactics, such as the inclusion of names or preferences within LBA prompts.

Marketers today struggle to articulate the optimal level of personalised marketing since mobile devices are deemed to be an item intricately woven into the lives of consumers. This increases consumer sensitivity to external infiltration; resulting in the "location paradox" by Rimkus (2000), whereby consumers expect to remain sufficiently anonymous yet receive context-sensitive information that LBA can provide. Earlier research reflects that consumers dislike a felt manipulation from brand advertising tactics (Campbell, 1995), which ensues to form negative perceptions of the brand itself and reduce purchase intent. Bruner and Kumar (2007) also reflect that consumers could view LBA attempts as spam information, thereby revoking all intended impact that leads to an eventual purchase. White, Zahay, Thorbjørnsen, and Shavitt (2007) assert that negative consumer responses to personalised marketing tactics may cause more damage to a brand, than a simple lack of response on a non-personalised marketing message - a stark reminder to observe consumer behaviour carefully.

Of the many factors that could impact the utilisation and efficacies of personalization in an LBA context, a significant moderating factor may be Brand Familiarity. The concept is basically referred to as the composite of knowledge structures in the minds of consumers towards a brand (Campbell & Keller, 2003). Findings from Kent and Allen (1994) reflect that brand familiarity weakens advertising wearout and moderates advertising interference. Given that the current study seeks to examine effects of personalised advertising in an LBA context, brand familiarity is naturally a variable of concern.

Lin, Paragas, Goh, and Bautista (2016) have applied a socio-technical analysis on the developing state of LBA, specific to the local context. The study affirms that Singapore is technologically-ready for LBA and the phenomenon has ample government support and industry pull. While so, the study also found that conservative marketers and negative consumer attitudes towards this new phenomenon alongside insufficient privacy and data regulations have hindered the diffusion of LBA locally. The current study will look to extend the efforts of Arora et al. (2008), bearing in mind the existing findings and thereby look to articulate factors that may aid the practical application of LBA locally.

Current studies largely focus on the potential and efficacies of LBA while exploring potential challenges such as consumer data privacy (Bruner & Kumar, 2007; Xu et al., 2009). There are also exploratory studies on the circumstances affecting personalisation efforts in other contexts such as email and mobile marketing (Postma & Brokke, 2002; White et al., 2007). However, there is an apparent lack in the amount of studies drawing attention to the specific factors that enable effective application of LBA. Accordingly, the study seeks to explore the effects of Personalisation, as moderated by Brand Familiarity, on the effectiveness of LBA, as would be measured in terms of attitudes and intentions such as a change in attitude towards the brand or product, or an intended visit to the physical store.

The research question in this study is as follows: "How does Personalisation influence the effectiveness of Location-Based Advertising for spontaneous purchases?" The current study contributes to existing literature by focusing on the relationship between personalisation, brand familiarity in the context of LBA, a currently understudied phenomenon. The study extends the efforts of Xu et al. (2009) who has previously observed the personalisation privacy paradox in context of LBA to determine factors for appropriate personalisation; as well as that of Komiak and Benbasat (2006), who have discussed the interaction between personalisation and familiarity in the context of recommendation agents. The results of this study will provide valuable insights and practical actionables for brand managers and marketers to effectively factor in brand familiarity in their considerations towards adopting LBA. It will also reveal consumer inclinations on personalisation tactics, in the context of LBA practiced in Singapore.

The rest of the paper is organised as follows. Next section looks to expound on the theoretical foundations of the study and review existing academic literature to derive a set of hypotheses for testing. It is followed by a description of the adopted research methodology. We then present the results of the study. Finally, the paper is concluded with a discussion of its key findings, theoretical and managerial implications as well as its limitations and recommendations for future studies.

THEORETICAL FRAMEWORK

Personalisation

This paper adopts a definition of the term ‘personalisation’ as a form of distinct marketing messaging that is tailored to an individual’s characteristics or preferences, as adapted from that of Postma and Brokke (2002) and Hoffman and Novak (1996). Arora et al. (2008) suggests that economists and psychologists have invariably supported the adaptation of the marketing mix to individual consumers, as underpinned by the economic practices of price discrimination or information processing models. Arora et al. (2008) assert that personalisation enhances the lives of consumers and drives engagement and loyalty by delivering marketing messages that anticipate and fit the expectations of consumers. If done right, personalisation can reduce acquisition costs by as much as 50 percent and increase ROMI by 10 to 30 percent (Ariker, Heller, Diaz, & Perrey, 2015).

Despite the apparent consensus towards personalisation, the advent of big data changes the nature of personalised marketing and has elicited much debate on its efficacies for today. By now, it is beyond clear that consumers interact with numerous data points each day, be it where they go, what they eat, who they meet and what they watch online (Amerding, 2017). This makes big data analytics a lethal, double-edged sword. Today, marketers can personalise marketing messages according to the preferences and behaviour of consumers, far beyond what they even know of themselves. While so, businesses bear the risk of over personalizing marketing messages which then incurs detrimental backlash from consumers against the brand. Big data is thus both a boon and a bane for marketers who practice personalised marketing, with marketers now having to rigorously consider the appropriate extent of personalisation in marketing messages.

Earlier research by White et al. (2007) clarifies that research thus far on the effects of personalising marketing messages towards consumers’ behavioural responses has produced mixed findings. The paper expounds on the term ‘Personalisation Reactance’, which serves to refer to ‘psychological resistance to subjectively inappropriate personalisation’. This phenomenon takes place when a consumer perceives himself or herself as constrained or threatened due to a sense of being overly identifiable by a firm. In other words, the consumer perceives the situation as invasive and manipulative (Campbell, 1995). The paper suggests that consumers may even ruffle up in response to solicited messages that are perceived to be too personal.

In other words, instead of friendly recognition, the level of personalisation suggests an inappropriate extent of familiarity with consumers’ preferences and behavioural inclinations. Brehm (1966) posits a similar psychological reactance, referring to a motivational state that emanates when a person perceives a threat to their personal freedom. Mitigating factors to the sense of personalisation reactance include (1) justification of the fit between the distinctive personal information utilised and focal offer; and (2) the perceived utility of the featured product or service within the offer. Brehm (1966) concludes by affirming that personalisation attempts in marketing must be justified and of high perceived utility to the consumer such that Personalisation Reactance would not be present.

It is observed that earlier studies (Brehm, 1966; Campbell, 1995; White et al., 2007) reflect a danger in inappropriate levels of personalisation that may incur a backlash from consumers, and hence a reduction in purchase intent. At the same time, personalisation that is sufficiently justified (i.e. perceived as relevant to the individual) and of high perceived utility will lead to targeted content that fulfills need and wants, thereby propelling positive attitudes.

In summary of the above subchapter, the relationship between Personalisation Tactics and the effectiveness of LBA, as measured by consumer attitudes, can be hypothesized as follows:

H1: Personalisation of LBA improves the attitude towards a focal product.

Moderating Effect of Brand Familiarity

Campbell and Keller (2003) theorize that brand familiarity is a crucial variable influencing consumer processing. This is corroborated by earlier research by Kent and Allen (1994), who assert that brand familiarity reflects the extent of a consumer’s indirect and direct interaction with a brand. Essentially, the difference between familiar and unfamiliar brands exist in terms of the knowledge structures that consumers store in their memory. Given differences in terms of brand knowledge, consumers likely differ in their manner and goals of processing content when being exposed to sponsored advertisements by familiar and unfamiliar brands. For example, when consumers are exposed to advertisements from a familiar brand, they are likely to update their current brand knowledge (Snyder & Stukas, 1999). On the other hand, novel advertisements for unfamiliar brands may invoke extensive cognitive processing that results in a more accurate view of the brand (Campbell & Keller, 2003). If so, brand familiarity will adversely affect the effects of personalised LBA.

On the contrary, an earlier study by Rose (2016) regarding the effects of brand familiarity on perceived risks and purchase intentions reflected important findings that brand familiarity aids consumers to perceive lower risks, thereby improving attitudes and purchase intentions for that brand. This is corroborated by findings from Monroe (1976). Ojo, Kesinro, and Akinsunmi (2015) who posit that brand recognition, which forms part of brand familiarity, is a determinant towards impulse purchases. Given that the current study tests LBA as a trigger for spontaneous purchases, perceived risks are necessarily low so that consumers proceed to purchase.

Hjarvard (2002) suggests that personalisation and branding practices are mechanisms to elicit trust in brands, while an important dilemma of trust lies in the perceived image of familiarity and proximity that a brand portrays. Consumers may have high expectations of brands who practice personalisation, especially familiar brands such as Amazon and Netflix. By extension, marketers can expect that brand familiarity serves to impact the effects of practiced personalisation tactics, either positively or negatively. Further, In a bid to bridge the gap between themselves and consumers, brands invest heavily in creating proximity, familiarity, and specificity. Simply put, brand familiarity is the starting point towards building trust, whereby personalisation is one of the manners in which brands apply to elicit further brand loyalty and thereby bring about positive purchase behaviour.

Generally, earlier studies such as Rose (2016), Monroe (1976) and Hardesty, Carlson, and Bearden (2002) posit that brand familiarity increases purchase intention by lowering perceived risks. Considering that consumers vary in their cognitive purchase processes for familiar and unfamiliar brands (Campbell & Keller, 2003), it is likely that familiarity adds to positive affections and thereby heightens effects of personalised advertising.

With the above understanding, the current study hypothesizes the following regarding the moderating effects of brand familiarity on the effects of personalisation, in the context of LBA.

H2: Personalisation of LBA is more favourable when Brand Familiarity is high than when it is low.

Attitude & Purchase Intention

Bruner (2007) suggests that purchase behaviour is an obvious consequence worthy of study due to its direct contribution in decision making. As much as marketers worry about consumer backlash and negative attitudinal effects regarding LBA, managers and business owners would find purchase intention an important determinant for decision making. The current study will hence look to test for resulting effects from attitude towards purchase intention.

While so, resulting purchase intentions differ across various purchase situations. Baumgartner (2002) categorizes purchase intentions into two distinct forms: 1) Deliberate purchases, which are predictable and routine, and 2) Spontaneous purchases, which are unpredictable. Spontaneous purchases usually include a. Promotional purchases, b. Exploratory purchases, c. Casual purchases and d. Impulsive purchases, all of which are specific target scopes for LBA in practice. This study will concern itself with how personalisation and brand familiarity interact to affect LBA in the context of a spontaneous purchase.

Academically, theories such as the Theory of Reasoned Action (TRA) and by extension, the Theory of Planned Behaviour (TPB) have established a clear consensus of attitude as a major factor leading to intentions that in turn leads to behaviour, be it volitional or otherwise (Fishbein & Ajzen, 1975). With the TRA and TPB as basis, the current study hypothesizes the following regarding the consequent effects of attitude on purchase intention.

H3: The attitude towards a focal product is positively related to purchase intention.

Figure 1 summarizes the hypothesized relationships of the current study between the key variables of Personalisation and Brand Familiarity. Essentially, the study tests for the effects of Personalisation on the effects of LBA, reflected by attitudes and purchase intention. This is hypothesized as a positive relationship. Brand Familiarity is thought of as a moderating variable that affects the direction and/ or strength between the independent and dependent variables. A basic moderator effect according to Baron and Kenny (1986), can also be understood as the interaction between the independent variable and a factor that 'specifies the appropriate conditions for its operation'. We do not rule out effects of personalisation and brand familiarity towards the construct of attitude that may not lead to a measurable change in purchase intention. Thus, the current study tests for the dependent variables of attitude and purchase intention separately and looks to draw correlations between attitude and purchase intention.

Conceptual Model

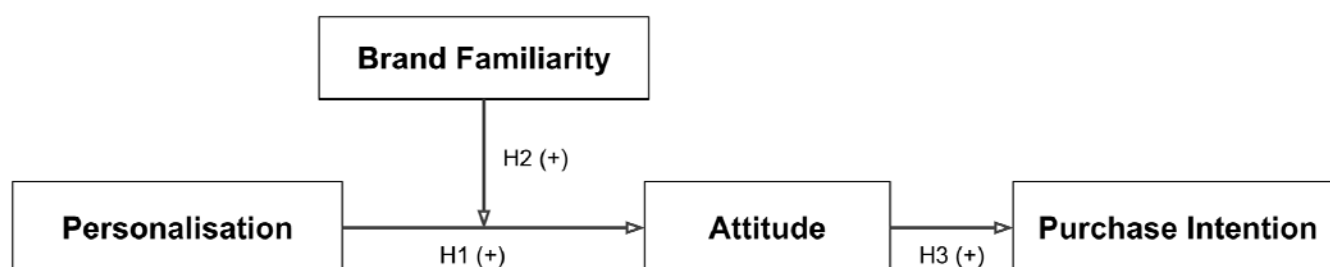


Figure 1. Conceptual model.

METHODOLOGY

Research Method

Participants

A total of 100 undergraduates and young graduates were recruited across institutions in Singapore. It was specified that participants should own a smartphone and allow the use of notifications prompts in their daily mobile usage. While there may be concerns over the use of student subjects, this should not limit the generalizability of the research findings. Undergraduates and graduate students are naturally a population of interest, since mobile devices are intricately integrated with the lifestyles of young people today, of which form the potential majority of the LBA audience. Participants were randomly assigned to a 2 (Personalisation: high, low) \times 2 (Brand Familiarity: high, low) full factorial design, with Personalisation and Brand Familiarity acting as between-subject factors. 100 participants are randomly allocated to the 4 conditions.

Stimuli

The fast-moving food and beverage product category was chosen as focal for this experiment for two reasons. Firstly, this category is highly relevant to the sampled population of tertiary students and young adults. Secondly, the study seeks to test for spontaneous purchase scenarios, of which fast moving consumer food and beverages are suitable in terms of price considerations.

As adapted from the design of Campbell and Keller (2003), a familiar and fictitious brand name was chosen in the fast-moving food and beverage product category - Starbucks Coffee Company and Caribbean Coffee Company. To manipulate personalisation, the current study takes reference from past examples of implemented LBA from Starbucks in 2014 (Simpson, 2016), so that a realistic situation is mimicked to the fullest extent. Participants will first enter their favourite choice of beverage (e.g. Vanilla Latte) in the first portion of the questionnaire. The input would be applied as merge fields for the experiment, which forms the next section of the questionnaire.

Participants under the tested scenario will be prompted a personalised notification, for example, "Hi Phil! You are near <Brand> at Plaza Singapura. Currently 50% off your favourite drink: <Favourite Drink Input>! Enjoy!". On the other hand, a non-personalised notification would prompt "Hi there! You are near <Brand> at Plaza Singapura. Currently 50% off all drinks! Enjoy!". Personalisation tactics applied are specifically the name field, as well as the 'favourite drink' field. These prompts are mimicked as from a third-party mobile promotions service provider, whom they would have agreed to allow notifications and use of personal data, as adapted from Xu et al. (2009). This would minimise noise that arises from data privacy concerns as that is not a factor of concern in this study, though it legitimately influences the outcome of location-based prompts, as asserted by White et al. (2007), Campbell (1995) and Brehm (1966) (See Appendix A).

A pretest was conducted amongst 10 participants. The objective of the pretest was to establish that the general populace is (1) familiar with the familiar brand, (2) unfamiliar with the fictitious brand and (3) perceive the fictitious brand as legitimate. The pretest also aimed to indicate that the test notifications are (1) perceived as legitimate and that the personalised notifications are (2) perceived as more personalised. The pretests also allowed for clear and neutral language to be applied in the survey to minimise bias and undue influence on respondents.

The outcome of the pretests reflected that the subjects thought of the familiar brand name as typical and representative, while the fictitious brand was unfamiliar. This corroborates with the stimuli applied by Campbell and Keller (2003), whereby brand familiarity was tested. No one in the pretest suggested that the notifications or the brands were not real, reflecting a good basis for manipulation.

Procedure

All participants were pre-screened; only those who owned a mobile device which allowed push notifications would be deemed qualified, as adopted from the design of Komiak and Benbasat (2006). Therefore, the participants were potential customers when they took part in the experiment. Participants were told that they had already given permission for a third-party location-based application to prompt them, should they be near a store of interest. This would aid to remove concerns regarding data privacy. Each participant took the experiment individually and was allowed to take as much time as needed. The procedures were as follows.

1. Participants were required to visit an online questionnaire that requests for the information required for personalisation, for example, their name and favourite beverage choice, amidst other demographic data such as age group and employment status.
2. The questionnaire presents a scenario in which respondents should imagine themselves on a leisurely day out at “Plaza Singapura”. As illustrated in 3.1.2 Stimuli, participants are presented with a push notification from the third-party location based application.
3. Respondents were then presented with the measurement items for the constructs representing personalisation, brand familiarity, attitudes and purchase intention.

In full measure, the current study adapts constructs from measurement scales applied in prior studies, to fit the LBA context. Manipulation checks were performed for the constructs of personalisation, as adapted from Komiak and Benbasat (2006), with five-items for measurement. Manipulation checks for brand familiarity include the use of a two-item for measurement, as adapted from Komiak and Benbasat (2006). Scales measuring attitude and intention from Taylor and Todd (1995) were applied, with a total of six-items. Apart from demographic attributes measured, all other measures are assessed with a seven-point Likert-type scale, anchored by 1 = strongly agree and 7 = strongly disagree (See Table 1 for the utilised constructs and measures).

Table 1. Constructs and measures.

Construct	Measure
PP: Perceived Personalisation (Komiak & Benbasat, 2006; Xu, Liao, & Li, 2008)	(PP1) I feel that the advertisement was tailored to me. (PP2) The contents in the mobile advertisement were in accordance to my preferences. (PP3) The brand understands my needs and wants.
BF: Brand Familiarity (Komiak & Benbasat, 2006)	(BF1) I am generally familiar with the brand. (BF2) I am familiar with the product offerings from the brand.
AT: Attitude (Taylor & Todd, 1995)	(AT1) I like the idea of purchasing this item. (AT2) It is wise to purchase this item. (AT3) My attitude towards purchasing from <Brand> is positive.
PI: Purchase Intention (Taylor & Todd, 1995)	(PI1) It is likely that I will utilise the promotion from <Brand>. (PI2) I am actively considering to purchase from <Brand>. (PI3) I intent to continually allow such prompts.

Data Collection

Data collection was conducted during the first two weeks of March 2018. Four online questionnaires were randomly assigned amongst tertiary students and young adults via the researcher’s personal contacts. Through this method, a total of 85 responses were collected over the two-week period. A small portion of the data was obtained from consumer flow points at “Plaza Singapura” to obtain a representative sample. “Plaza Singapura” was selected as a data collection point due to the use of the mall in the experiment stimuli, allowing for contextualisation, as well as its shopper demographics which are deemed appropriate for this study. For the second method, the researcher visited “Plaza Singapura” on a weekday in the afternoon, whereby shoppers were mainly aged 17-30. Similarly, through this method, a total of 23 responses were collected.

Convenience sampling was applied, with participants who indicated interest in taking part in the experiment being randomly allocated amongst the four scenarios. Emphasis was also placed on obtaining an even sample, as much as possible, in terms of gender distribution so as to minimize variances. The study has considered potential ethical concerns that may arise, such as the monetizing of collected data. To mitigate such conflicts, respondents were duly presented with a survey cover letter or disclaimers that assures them of the academic scope of the current study and promises confidentiality of their responses.

By the end of the data collection process, a total of 108 responses were collected. Amongst which, 6 responses were rejected due to invalid name and beverage choice inputs that would result in an invalid experiment stimulus. 2 samples were rejected due to the surveys being incomplete. This left the number of valid samples at 100 respondents.

Demographic characteristics of the respondents are displayed in Table 2. The age distributions reflect that the majority of respondents as from the age group of “18 to 24”, forming 80% of the sample size (n=100). This is in line with our target respondent demographic as earlier posited under 3.1.1 Participants. Gender distributions reflect a slight skew towards females, with 61% of the sample size, while males made up the remaining 39%. Additional data was collected on the employment status of the respondents, as purchasing power could be a potential factor leading to discrepancies in our findings. Most of the respondents indicated their employment status as students, with 67% of the sample size, while 10% and 23% were employed on a part-time and full-time basis respectively.

Table 2. Demographic characteristics of respondents.

<i>Demographic Characteristics of Respondents (n=100)</i>		
Demographic Characteristics	No. of Respondents	Frequency (%)
Age Group		
18 to 24	80	80.0%
25 to 34	15	15.0%
35 to 44	2	2.0%
45 to 54	0	0.0%
55 to 65	3	3.0%
65 or older	0	0.0%
Gender		
Male	39	39.0%
Female	61	61.0%
Employment Status		
Student	67	67.0%
Employed (Part-Time or Project Basis)	10	10.0%
Employed (Full-Time Basis)	23	23.0%

Results

Internal Reliability

The measurement model was evaluated by examining the Cronbach's Alpha for internal consistencies pertaining to each construct in the applied questionnaire (see Table 3. Reliability Statistics). Nunally (1978) posits that Cronbach's Alpha values are adequate to signify internal reliability. More specifically, a rule of thumb to interpret Cronbach's Alpha values whereby $\alpha > 0.9$ indicates excellent internal reliability, $0.9 > \alpha > 0.8$ indicates good internal reliability, while $\alpha > 0.7$ indicates acceptable internal reliability.

The study had four constructs to be tested. Firstly, “Perceived Personalisation” saw a Cronbach's Alpha score of 0.92, with 3 items; “Brand Familiarity” obtained a Cronbach's Alpha score of 0.97 with 2 items. “Perceived Personalisation” and “Brand Familiarity” is deemed to have excellent internal reliability. The construct of “Attitude” obtained a Cronbach's Alpha score of 0.88 with 3 items; and lastly, “Purchase Intention” obtained a Cronbach's Alpha score of 0.89 with 3 items. Given so, “Attitude” and “Purchase Intention” have good internal reliability. Table 3, as follows, presents a summary of the Cronbach's Alpha values.

Table 3. Reliability statistics.

<i>Internal Reliability Statistics</i>		
Item	Cronbach's Alpha	No. of Items
PP: Perceived Personalisation	0.92	3
BF: Brand Familiarity	0.97	2
AT: Attitude	0.88	3
PI: Purchase Intention	0.89	3

Manipulation Check

Manipulation checks for Perceived Personalisation (PP) and Brand Familiarity (BF) were conducted via independent sample t-Tests.

Perceived Personalisation There were 50 participants in the low and high personalisation groups respectively, forming balanced groups. A t-test was run to determine if there were differences in engagement to an advertisement between the groups due to the assumption of homogeneity of variances being violated, as assessed by Levene's test for equality of variances ($p = .000$). Consistent with our expectation, the level of personalisation was perceived to be higher for the group in high personalization condition ($M_{\text{high}}=6.08$) than the group that is in the low personalization condition ($M_{\text{low}}=5.14$). The result was statistically significant ($t(98) = -4.564, p = .000$). We now proceed to perform the manipulation check on “Brand Familiarity.”

Brand Familiarity There were 50 participants in the low and high brand familiarity groups respectively, forming balanced groups. A t-test was run to determine if there were differences in engagement to an advertisement between the groups due to the assumption of homogeneity of variances being violated, as assessed by Levene's test for equality of variances ($p = .000$). Consistent with pretests conducted, the level of brand familiarity was perceived as higher for the group that is in high brand familiarity condition ($M_{\text{h}}=6.08$) than the group that is in the low brand familiarity condition ($M_{\text{l}}=2.29$). The result was statistically significant ($t(98) = -17.669, p = .000$.) The results suggest a successful manipulation of both personalisation and brand familiarity variables.

Hypothesis Testing

The Effects of Personalisation on Attitude It was earlier hypothesized in H1 that personalisation of LBA improves the attitude towards a focal product. A one-way ANOVA was conducted to determine if the scores pertaining to attitudes would differ with different levels of personalisation (high vs. low). There was homogeneity of variances, as assessed by Levene's test of homogeneity of variances ($p = .284$). The Attitude score was significantly different between high and low personalisation groups ($M_{\text{high}} = 5.26, M_{\text{low}} = 4.77, F(1, 98) = 5.287, p < .05$). Thus, H1 is supported.

The Interaction between Personalisation and Brand Familiarity on Attitude The study also hypothesized in H2 that personalisation of LBA is more favourable when Brand Familiarity is high than when it is low. A two-way Analysis of Variance (ANOVA) was conducted to examine the interactions between the focal variable (PP), moderating variable (BF) and the dependent variable (AT). Homogeneity of variances was assessed by Levene's test. Results showed homogeneity of variances ($p = .098$). There was a statistically significant interaction between personalisation and brand familiarity on “Attitude” score ($F(1, 96) = 14.981, p < .001$). This reflects that brand familiarity has a moderating effect of personalisation on attitudes. Given so, an analysis of simple main effects for personalisation levels was performed. The ANOVA analysis of the difference scores reflected a significant main effect of high brand familiarity ($M_{\text{low}} = 4.76, M_{\text{high}} = 5.99, F(1, 96) = 20.938, p < .001$), and a non-statistically significant main effect of low brand familiarity ($M_{\text{low}} = 4.76, M_{\text{high}} = 5.99, F(1, 96) = .806, p = .372$). The representative marginal mean plot and clustered bar chart are respectively presented in Figure 2 and 3 as follows.

Given so, in a low brand familiarity context, personalisation efforts are found to have negligible effects on attitude; while in a high brand familiarity context, personalisation efforts have significant positive effects. In consequence, the obtained results lend support to H2.

The Effects of Attitude on Purchase Intention Thirdly, it was hypothesized in H3 that the attitude towards a focal product is positively related to purchase intention. A linear regression was conducted to understand the effect of “Attitude” scores on “Purchase Intention” scores. “Attitude” scores significantly predicted purchase intention ($\beta = 0.767, p < .001, R^2 = .49.1$), accounting for 49.1% of the variation in “Purchase Intention”, a substantial effect according to Cohen (2013). Therefore, H3 is duly supported.

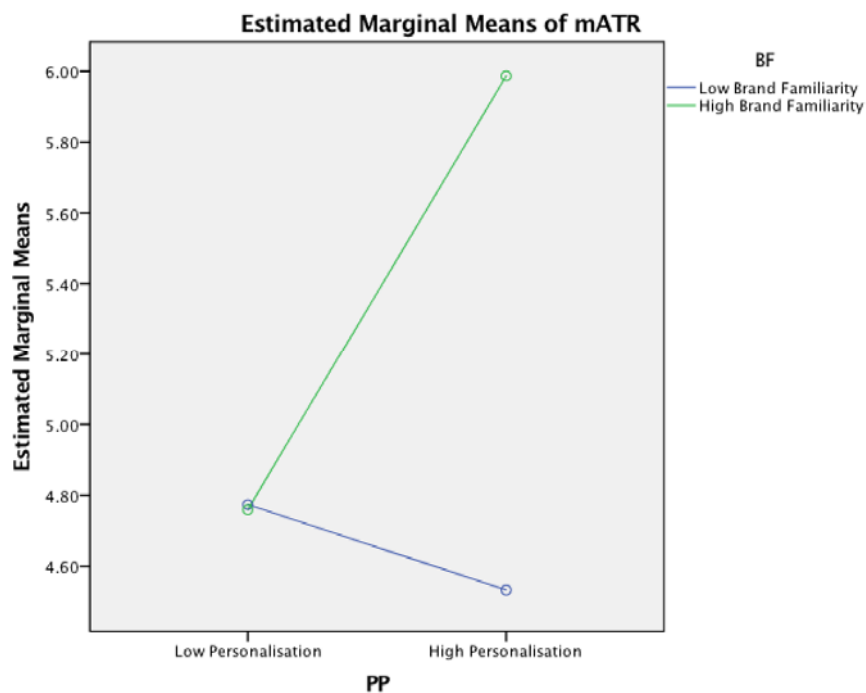


Figure 2. Marginal mean plot for attitude.

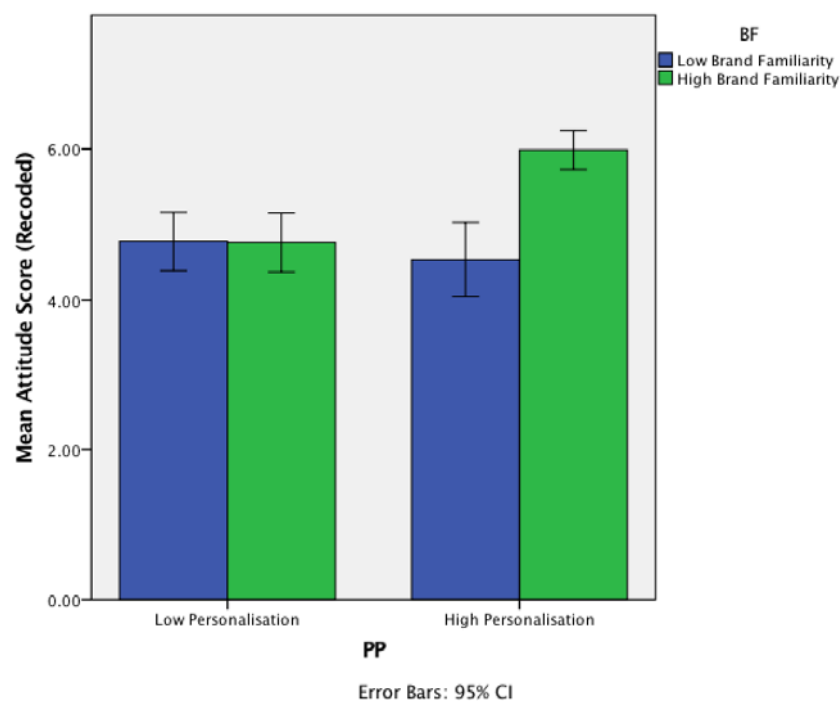


Figure 3. Clustered bar chart for attitude.

Summary of Findings To conclude the above testing of hypotheses, a summary table of hypothesis testing is presented as follows in Table 4. This research examined the interactions between dependent variables personalisation and brand familiarity and dependent variables attitude and purchase intention in the context of applied LBA. Overall, the results of the study support the initial conceptualisation.

Table 4. Summary of hypothesis testing.

H1	Personalisation of LBA improves the attitude towards a focal product.	Supported
H2	Personalisation is more favourable when Brand Familiarity is high than when it is low.	Supported
H3	The attitude towards a focal product is positively related to purchase intention.	Supported

Hypothesis testing for H1 revealed that Personalisation improves attitudes for applied LBA. Next, building on the assertion by Rose (2016) that brand familiarity aids to improve attitudes, hypothesis testing for H2 confirms that brand familiarity indeed moderates the effects of personalisation and resulting “Attitude” scores, whereby brands with high brand familiarity enjoy heightened results from personalisation efforts. In other words, personalisation is indeed more favourable in high brand familiarity contexts; while when brand familiarity is low, the impact of personalisation is likely non-significant on attitudes. Finally, the study affirms that attitudes are positively related to purchase intention in the context of LBA. This is corroborated by the well-researched Theory of Reasoned Action (TRA) (Fishbein & Azjen, 1975).

Altogether, the findings reflect that while personalisation itself results in a statistically significant increase in “Attitude” scores, brand familiarity is a crucial variable due consideration. The presence of high brand familiarity contributes by enhancing personalization efforts, and thereby increases purchase intention significantly. In contrast, for brands with low brand familiarity, personalisation does not make a statistically significant difference towards attitudes and purchase intentions.

CONCLUSION

The paper began by affirming the potential of LBA, a relatively new phenomenon in the arena of personalised marketing. As past research reveals, LBA has the potential to deliver timely, targeted content to consumers according to their location and thereby trigger purchases. While so, marketers hold back on applying LBA in their marketing plans, since it invariably presents new risks, such as “Personalisation Reactance” as examined earlier, that would produce costly harm to the brand. There is also a clear lack of research as to the suitability of firms to adopt LBA. Therefore, the study set out to examine the effects of personalisation and brand familiarity on attitudes and purchase intention in the context of LBA.

Like previous research findings, this study confirms that personalisation attempts aid to improve attitudes and hence inclinations to purchase. Further, it is found that brand familiarity moderates the effects of personalisation on attitudes, whereby high brand familiarity enhances the effects of personalisation. For brands with low brand familiarity, the application of high personalisation does not aid to improve attitudes. While there may be other factors that influence attitudes and purchase intentions, the study provides a clear insight that brand familiarity is a crucial variable in the practice of LBA. Brands that enjoy high brand familiarity are thus presented with an opportunity to further exploit their brand value by applying personalisation in their LBA attempts. This study therefore affirms the inherent value of brand building that gives rise to trust and hence, heightened ROMI when personalised marketing tactics are applied in a LBA context.

Theoretical Contributions

This study expands preliminary theoretical understandings regarding the currently understudied phenomenon of LBA towards a study of specific factors that contribute to effective LBA. The study has established that LBA is not equally effective for all situations and attempts to fill in the gap by providing the specific boundary condition of brand familiarity.

As previously mentioned, the current paper looks to extend efforts of Xu et al. (2009) who has previously observed the personalisation privacy paradox in context of LBA to determine factors for appropriate personalisation; while applying an interaction of independent variables like that of Komiak and Benbasat (2006), who have discussed the interaction between personalisation and familiarity in the context of recommendation agents. The current study has confirmed the efficacies of personalisation, which is heightened by the presence of high brand familiarity, in context of practiced LBA.

The study also corroborates with past research that has established moderating effects of brand familiarity on the consumer decision process amongst choices within an evoked set when generic advertising is applied (Baker, Hutchinson, Moore, & Nedungadi, 1986). The current study affirms that the moderating effects of brand familiarity is too, found to hold true in the context of LBA.

Managerial Implications

From a practical perspective, this study has implications for various players in the LBA industry: brands, marketers and LBA service providers.

First, since the study proves brand familiarity as a valid boundary condition, brands should look to conduct sufficient market research or a brand familiarity audit prior to implementing personalisation in LBA. Though the study has found a statistically significant difference for “Attitude” scores between high and low personalisation scenarios, such a small difference may not be sufficiently significant for managers to practice personalisation due to the costs involved. Warren (2001) reveals that costs of personalisation technology include spending for software for data collection, implementation services, manpower and the probable aid of a specialist consultancy. Since the study finds little difference between the resulting attitudes of the groups who respectively experienced low and high personalisation, marketers may not be able to justify ROMI for personalisation efforts from the outset, without the potentially heightened effects from factors such as brand familiarity.

Secondly, established and recognised brands in the likes of Starbucks Coffee, The Coca-Cola Company and Netflix should look to invest in high personalisation tactics in a LBA context. Though brands of all brand familiarity levels can opt to practice personalisation without harm, only brands with high brand familiarity will reap significant returns on their investment in personalisation efforts. This is corroborated by Rose (2016) who asserts that brand familiarity aids to reduce perceived risks and hence heightens trust. Specifically, top-of-mind brands in a local context such as Starbucks, NTUC Fairprice, McDonalds, Uniqlo and Zara can look to apply personalisation by including name fields and choice of favourite item, as proven successful in the current experiment. By extension, it is likely that other forms of personalisation such as the tone of marketing message, personalised discount codes, could be applied for similar results. That being said, the efficacies of various personalisation tactics are naturally a topic of interest for future LBA related research.

Finally, brands with low brand familiarity levels should look to improve its brand familiarity amongst the general populace via mass advertising tactics prior to implementing personalisation in LBA. Such mass advertising tactics include the use of online advertising, outdoor advertising or influencer marketing. These forms of marketing are in line with the application of LBA and hence deemed more likely to be viewed by the LBA audience. Specifically, influencer marketing can aid to quickly establish brand credibility, if the influencers have established prior trust before endorsing a brand (Zuercher, 2017). As of the current findings, brands which are relatively unknown or new should refrain from investing in personalisation when practicing LBA. Specifically, generic messages without customising name fields or focal items, such as “Hello there, here’s 20% off all drinks at fashion store, Monki, near you!” would suffice to achieve similar results as would a personalised message.

Limitations and Future Research

As with other studies, several limitations exist for the current study. First, the sample size ($n=100$) and sampling method are limitations of the study due to time and resource constraints. The study used a convenience sample in data collection through an online web-survey, towards which the study obtained a youth-dominated sample (age range = 18 to 25). There may be potential criticism as to the true representation of the population, thereby limiting generalizability. This is especially so since past research has revealed that attitudes towards personalised marketing differs amongst age groups, with 57% of 18 to 35-year-olds happy to receive them, while a mere 5% of those above 35 said they were (Gwynn, 2016). Future research should be conducted with a more diverse sample, with the use of other sample techniques such as stratified random sampling for improved generalizability.

The research was based on the declaration of willing respondents via a survey. Although experiments allow for better control over the test environment, the lack of a genuine context may compromise on the reliability of our findings. For example, should a consumer may be in a rush for his next appointment and thus has increased annoyance to any advertisement or prompt. This may ensue as a negative backlash instead of the positive results the study obtained within a controlled environment. It would be worth therefore, to conduct field experiments that better considers the intricacies and complexities of consumer decision making, thereby providing for high ecological validity.

Next, the study focused on a single prototype while designing the experiment, namely the use of fast moving consumer goods in the form of beverages to simulate a spontaneous purchase situation. LBA researchers such as Xu et al. (2009) present two distinct forms of purchase intentions, including that of deliberate purchases and spontaneous purchases. While researchers such as Bruner and Kumar (2007) affirm LBA for its potential to trigger impulse purchases, it is acknowledged that numerous consumer purchases involve deliberate purchases such as big ticket items like automobiles, consumer appliances or larger food and beverage expenditure. This would have implications on major brands such as BMW, Phillips, Paradise Group or Ray-Ban Sunglasses. Future studies could examine the applicability of the current study’s findings to varying purchase situations.

Third, since the current study focuses on the effects of personalisation or lack thereof towards attitudes, further examination as to the extent of personalisation is crucial. Though we have established that personalisation has its efficacies especially if applied by brands with high brand familiarity, it is also imperative to consider White et al.’s (2007) assertion that that negative consumer responses to personalised marketing tactics may cause serious damage to a brand, far beyond a simple lack of response to marketing strategies. Marketers would hence be in need of academic research that provides insights to fine-tune the personalised experience of its consumers, including aspects such as the tone of the message or the propensity of various age group towards

personalised marketing. Future research should build upon the findings of the current study to examine the type or extent of personalisation tactics in context of LBA.

Also, the usefulness of LBA may not be limited to brick and mortar retailers, though researchers assert that LBA makes the most sense for brick and mortar businesses that users frequently pass in their daily activities (Bruner & Kumar, 2007). In fact, brands without a local presence may eventually be able to find uses for it as well. Consider a consumer who has opted-in for marketing from an online kitchen accessories supplier, who receives LBA prompts when she approaches their local competitors and complementary businesses. It is potentially worthy to study such applications, which could contribute greatly to effective retargeting strategies for e-commerce marketers.

Finally, since the study has observed that the efficacies of LBA are not equal in all situations, future studies could look to identify the effects of alternative factors such as 'brand awareness', 'brand preference', 'data privacy assurance' or 'country of origin' on the application of LBA. The resulting outcome will prove to be useful for marketing practitioners as justification for potential ROMI, especially when marketers look to make a case for adopting LBA. More importantly, establishing the effects of these factors will aid to improve applied LBA results and hence improve the adoption rate of LBA.

REFERENCES

- [1] Ariker, M., Heller, J., Diaz, A., & Perrey, J. (2015, November 23). How Marketers Can Personalize at Scale. Harvard Business Review. Retrieved from <https://hbr.org/2015/11/how-marketers-can-personalize-at-scale>
- [2] Arora, N., Dreze, X., Ghose, A., Hess, J. D., Iyengar, R., Jing, B., Zhang, Z. J. (2008). Putting one-to-one marketing to work: Personalization, customization, and choice. *Marketing Letters*, 19(3-4), 305-321.
- [3] Baker, W., Hutchinson, J. W., Moore, D., & Nedungadi, P. (1986). Brand Familiarity and Advertising: Effects on the Evoked Set and Brand Preference. *Advances in Consumer Research*, 13, 637-642.
- [4] Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.
- [5] Baumgartner, H. (2002). Toward a personology of the consumer. *Journal of Consumer Research*, 29(2), 286-292.
- [6] Brehm, J. W. (1966). *A Theory of Psychological Reactance*. New York, NY: Academic Press.
- [7] Bruner, G. C., & Kumar, A. (2007). Attitude toward Location-based Advertising. *Journal of Interactive Advertising*, 7(2), 3-15.
- [8] Campbell, M. (1995). When Attention-Getting Advertising Tactics Elicit Consumer Inferences of Manipulative Intent: The Importance of Balancing Benefits and Investments. *Journal of Consumer Psychology*, 4(3), 225-254.
- [9] Campbell, M., & Keller, K. (2003). Brand Familiarity and Advertising Repetition Effects. *Journal of Consumer Research*, 30(2), 292-304.
- [10] Cohen, J. (2013). *Statistical Power Analysis for the Behavioral Sciences*. Burlington: Elsevier Science.
- [11] EMarketer. (2016, November 23). Mobile Phone, Smartphone Usage Varies Globally. Retrieved from <https://www.emarketer.com/Article/Mobile-Phone-Smartphone-Usage-Varies-Globally/1014738>
- [12] Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention and Behaviour: An Introduction to Theory and Research*. MA: Addison and Wesley, Reading.
- [13] Forbes Corporate Communications. (2016, March 23). Location-Based Marketing Is Fast Becoming Essential to Remain Competitive, Says New Study. Retrieved from <https://www.forbes.com/sites/forbespr/2016/03/23/location-based-marketing-is-fast-becoming-essential-to-remain-competitive-says-new-study/#af2e2591b076>
- [14] Hardesty, D. M., Carlson, J. P., & Bearden, W. (2002). Brand Familiarity and Invoice Price Effects on Consumer Evaluations: The Moderating Role of Skepticism toward Advertising. *Journal of Advertising*, 31(2), 1-15.
- [15] Hjarvard, S. (2002). Mediated Encounters: An Essay on the Role of Communication media in the Creation of Trust in the 'Global Metropolis. In *Global Encounters: Media and Cultural Transformation* (pp. 69-84). Bedfordshire, United Kingdom: University of Luton Press.
- [16] Hoffman, D. L., & Novak, T. P. (1996). Marketing in Hypermedia Computer-Mediated Environments: Conceptual Foundations. *Journal of Marketing*, 60(3), 50-68.
- [17] Kent, R. J., & Allen, C. T. (1994). Competitive Interference Effects in Consumer Memory for Advertising: The Role of Brand Familiarity. *Journal of Marketing*, 58(3), 97-105.
- [18] Komiak, S., & Benbasat, I. (2006). The Effects of Personalization and Familiarity on Trust and Adoption of Recommendation Agents. *MIS Quarterly*, 30(4), 941-960.
- [19] LBMA. (2017, March 13). LBMA 2017 Global Location Trends Report. Retrieved from <https://www.thelbma.com/research/108/lbma-2017-global-location-trends-report/>
- [20] Monroe, K. B. (1976). The Influence of Price Differences and Brand Familiarity on Brand Preferences. *Journal of Consumer Research*, 3(1), 42-49.
- [21] Ojo, J. O., Kesinro, O. R., & Akinsunmi, A. S. (2015). Brand Recognition and Impulse Buying Behaviour of Automotive Lubricants in Lagos State, Nigeria. *European Journal of Business, Economics and Accountancy*, 3(5), 51-63.
- [22] Oliver, R. W., Rust, R. T., & Varki, S. (1998). Real-Time Marketing. *Marketing Management*, 7(4), 29-37.

- [23] Rimkus, A. (2000). Location Commerce and Privacy. *Wireless Review*, 17(19), 6-8.
- [24] Rose, J. L. (2016). The Effects of Brand Familiarity on Perceived Risks, Attitudes, and Purchase Intentions toward Intimate Apparel Brands: The Case of Victoria's Secret. *Proceedings of International Textile and Apparel Association (ITAA)*, Vancouver, British Columbia, Canada.
- [25] Simpson, J. (2016, January 19). What is location-based advertising & why is it the next big thing? Retrieved from <https://econsultancy.com/what-is-location-based-advertising-why-is-it-the-next-big-thing/>
- [26] Snyder, M., & Stukas, A. A. (1999). Interpersonal Processes: The Interplay of Cognitive, Motivational, and Behavioral Activities in Social Interaction. *Annual Review of Psychology*, 50(1), 273-303.
- [27] Taylor, S., & Todd, P. A. (1995). Understanding Information Technology Usage: A Test of Competing Models. *Information Systems Research*, 6(2), 144-176.
- [28] White, T. B., Zahay, D. L., Thorbjørnsen, H., & Shavitt, S. (2007). Getting too personal: Reactance to highly personalized email solicitations. *Marketing Letters*, 19(1), 39-50.
- [29] Xu, H., Luo, X., Carroll, J. M., & Rosson, M. B. (2009). The Personalization Privacy Paradox. *Decision Support Systems*, 51(1), 42-52.
- [30] Zuercher, B. (2017, February 23). Six stats on the importance of trust in influencer marketing. Retrieved from <https://searchenginewatch.com/2017/02/21/six-stats-on-the-importance-of-trust-in-influencer-marketing/>

APPENDIX A: Manipulation (Mobile Notification)



A.1 Brand Familiarity: High; Personalisation: High

“You have given permission to a third-party location-based app to prompt you, as and when you are near a store of interest with a relevant promotion. You are currently having a leisurely time walking around at Plaza Singapura.

You have received this mobile notification from Starbucks Coffee Company, a modern coffee joint:”

"Hi $\{Q1/ChoiceTextEntryValue\}$! You are near Starbucks Plaza Singapura! Here's 50% off your favourite drink: $\{Q5/ChoiceTextEntryValue\}$. Enjoy!"

“The following questions measure your responses towards such a scenario. You will take approximately 5-10 minutes to complete the rest of the questionnaire.”

A.2 Brand Familiarity: Low; Personalisation: Low

“You have given permission to a third-party location-based app to prompt you, as and when you are near a store of interest with a relevant promotion. You are currently having a leisurely time walking around at Plaza Singapura.”

“You have received this mobile notification from Caribbean Coffee Company, a modern coffee joint:”

"Hello there! You are near Caribbean Coffee at Plaza Singapura! Here's 50% off our beverages today. Simply show this notification to our staff. Enjoy!"

"The following questions measure your responses towards such a scenario. You will take approximately 5-10 minutes to complete the rest of the questionnaire."

A.3 Brand Familiarity: Low; Personalisation: High

"You have given permission to a third-party location-based app to prompt you, as and when you are near a store of interest with a relevant promotion. You are currently having a leisurely time walking around at Plaza Singapura."

"You have received this mobile notification from Caribbean Coffee Company, a modern coffee joint:"

"Hi \${q://QID1/ChoiceTextEntryValue}! You are near Caribbean Coffee at Plaza Singapura! Here's 50% off your favourite drink: \${q://QID5/ChoiceTextEntryValue}. Enjoy!"

The following questions measure your responses towards such a scenario. You will take approximately 5-10 minutes to complete the rest of the questionnaire.

A.4 Brand Familiarity: High, Personalisation: Low

"You have given permission to a third-party location-based app to prompt you, as and when you are near a store of interest with a relevant promotion. You are currently having a leisurely time walking around at Plaza Singapura."

"You have received this mobile notification from Starbucks Coffee Company, a modern coffee joint:"

"Hello there! You are near Starbucks Plaza Singapura! Here's 50% off our beverages today. Simply show this notification to our staff. Enjoy!"

"The following questions measure your responses towards such a scenario. You will take approximately 5-10 minutes to complete the rest of the questionnaire."