

UNLOCKING THE PERSONALIZED-PRIVACY PARADOX: AN EMPIRICAL STUDY OF CUSTOMER INTENTION TO USE DIGITAL PERSONALIZED SERVICES

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ABSTRACT

Advent of digital technologies supported by availability of big data has far reaching consequences for customers as well as marketers. While customers are able to enjoy the personalization made possible by behavioural targeting paving way for value-added services, it also increases customers' privacy concerns. This generates conflict between the benefits and costs of digital personalized services. The current study draws interlinkages between intentions to use Online Personalization (OP), Privacy Concerns (PC), Ease of Use (EU) & Perceived Usefulness (PU). The study analysed the perception & behaviour of the youth population and sample size was generated using G Power. The findings suggest that privacy concerns and quality of personalization is negatively and positively associated with intention to use personalized services respectively. The customers were segmented based on their perceived level of personalization by using k-means clustering. Three unique clusters emerged which were named as the Bureaucrats, the Artists and the Scientists.*

Keywords: Digital Personalized Services, Privacy Concerns, Digital Marketing, Big Data, Customer Intention, K-Means Clustering, G*Power, Indian Customers, Consumer Behaviour

INTRODUCTION

Digital transformation has brought a total metamorphosis in the realm of interaction between the marketers and consumers. Customized and targeted digital marketing initiatives have opened avenues for the personalization by means of behavioural targeting. The impact of digitalization can be realized through target-oriented application and networking of digitized data footprints. In the past few decades, the importance of personalization has been emphasized over and over. As personal approach is always a better option to spread the message across (Kingsnorth, 2016). But, what is this personalization? There are many ways to include personalization while tailoring a message. For example; your name mentioned on the coffee that you ordered in the Starbucks. Or, a notification pop ups on your mobile phone from Zomato stating facts like; 'Too lazy to go out, Juh. We'll bring over your Sunday brunch'. According to Kingsnorth (2016), there are two types of personalization: User-defined and Behavioural personalization. The first example is a user defined personalization where you know what you want and you are telling the server. The second example is behavioural personalization where marketer uses technology to know their customers. This study focuses on the second type of personalization *i.e.*, digital personalized services.

With advancements in technologies marketers are able to use consumer's personal information to provide personalized services through digital platforms. If one thinks how business captures the personal data; the answer lies in the buzzword- Big data. Big data has opened several avenues for digital marketing. This technology provides recommendations to consumers based on their preference and internet usage behaviour (Li & Unger, 2012). Umpteen products and services of the wide range of retailers are present in front of consumers. This

provides manifold benefits to customer; in terms of personalization, convenience etc. According to (Zhu et al., 2017), “The personalized service in digital marketing is commonly welcomed by consumers considering that it can offer more precise alternatives for them to compare the price, quality, relevance, and other characteristics before they make the purchase decision”. Similarly, with this, marketers are also able to increase their profits. This individualized marketing tactic has helped retailers and marketers to “efficiently accomplish their goals” (Lee & Crange, 2011). According to Hanafizadeh et al., (2014), businesses capture the data of internet users and then provide them advertisements that may interest them. Despite of several benefits of personalization, marketers’ ability to collect and exploit customer’s data raise serious concerns towards privacy of customers. Studies have shown that internet users are highly concerned about their privacy and collection of their personal data (TRUSTe, 2014; Pew Research Centre, 2014). Trust and transparency are important key in adoption of online services (Phutela & Altekar, 2019; Capponi et al., 2020).

Personalization and privacy concerns go hand-in-hand. Customers do appreciate personalization services but they are also concerned their personal information is tracked and used without their knowledge (Phelps et al., 2000; Sheehan & Hoy, 2000). Consumers usually get into the dilemma to choose between personalization and disclosure of personal information (Awad & Krishnan, 2006; Guo et al., 2012). Personalization technologies provide customer a wide range of different services to choose from, which require customer to provide personal information, this raises privacy concerns (Xu et al., 2009). According to some empirical work, customers use privacy calculus to decide among the benefits of personalization and risks of privacy concerns before taking any decision (Culnan & Bies, 2003; Dinev & Hart, 2006).

For example, the personal recommendations of digital platforms like Amazon, Flipkart. By using detailed records of consumer and understanding the internet search history of them, they provide specific and individualized advertisements and incentives like coupons to influence purchase decision of consumers. To receive some benefits consumers rationally share their information to retailers. It is usually seen that consumers decision to disclose personal information and how much to disclose depends on the trade-off of benefits and risks in terms of personalization-privacy paradox (Smith et al., 2011). For instance imagine a girl wants to read a blog, as soon as she starts reading the blog a message pops up ‘to continue reading please provide name, gender and phone number to get free one month subscription’. This kind of promotion, which demands for more personal information leads to personalization privacy trade off. In this case, the girl may decide not to provide personal information and further not to read the blog. As noted by (Tewari et al., 2003), Location based service providers (like; Swiggy) losing their major consumers who does not like tracking of online data and hence they are closing their accounts.

There are some studies that posit consumers are concerned about their privacy (Acquisti, 2004; Acquisti & Grosskalgs, 2005; Chellappa & Sin, 2005; Acquisti et al., 2015; Smit et al., 2014). However, as propounded by (Marreiros et al., 2017), consumers only show privacy concerns when they are asked to think about it.

Research Gap

For the purpose of this study, the researcher gathered data from database like Web of science, PsycINFO, etc. And keyword search was conducted. Words like, personalized services, targeted services, digital services were used. Researcher failed to find any research related to this aspect in India. So taking forward the above observations the current study aims to understand Indian consumer’s intention of using digital personalized services. According to (Jung, 2014), smartphones has overcome traditional mobile phones and it is also advanced from desktops. According to a research conducted by internet and mobile association of India (2017), Smart phones are predominantly used by youngsters under the age of 25 years. So, the current study focuses on the digital personalized services on mobile phones used by youngsters under the age of 25 years. The current study also shows how perceived quality of personalization and

privacy concerns influence the consumer's intention. Later, the study attempts to show clusters of consumers based on their perceived personalization. The study ends with conclusion and future recommendations.

LITERATURE REVIEW

Personalization and its Relevance

Personalization is adjusted content to the requirements of a particular consumer. The needs and wants of the consumers are well satisfied with personalization (Mulvenna et al., 2000) by delivering personalization content at right time and at the right place (Ho & Tam, 2005). These needs are very well understood by the marketers because of technologies that help in data mining and data usage. As propounded by (Li & Unger, 2012), online personalization is used to create customer relationship management, thus increasing the feeling of trust and customer loyalty. Therefore, consumers usually opt for personalized services over ordinary services.

According to many scholars personalization is very important in today's competitive world. For instance it influences consumer's decision making (Kumar & Benbasat, 2006; Tam & Ho, 2006). In line with this, (Katta & Patro, 2020) posit that perceived advantage leads to positive consumer's purchase intention. Similarly Ho (2009) mentioned by providing individualized services and offers, personalization reduces directionless surfing on internet (Shahabi & Kashani, 2003). According to (Liang et al., 2007), personalization makes consumers satisfied. Also, "the presence of personalized services amplifies the perceived value of personalization, and in turn leads to positive attitude towards the services" (Sheng & Nah, 2008; Lee & Cranage, 2011). No doubt personalization is relevant but privacy consciousness sometimes creates concerns for using personalized services in the mind of the consumers. Hence it creates personalization-privacy paradox.

Personalization-Privacy Paradoxical Situation

On one hand the customer desire high quality of personalization and on the other "they might have strong concerns about the privacy of their anonymous, personally unidentifiable and personally identifiable information" (Li & Unger, 2012). This situation of choice between personalization and privacy is known as personalization-privacy paradox. According to (Chellappa & Sin, 2005), there are two factors that lead to successful personalization; First, ability of the business to gather, understand and use personal information of the consumers and second, the willingness of consumers to share personal data and use of personalization services. Marketers try their best to collect and use consumer's personal information to provide them tailored advertising. But, consumer's perspective on this is quite complicated. As noted by (Lee & Rha, 2016), "consumer prefer to divulge as little as possible because of the risk of privacy invasion" (Culnan & Bies, 2003; Sheng et al., 2008). As personal services increases the risk of privacy invasion, consumers are usually found in the dilemma between using these services or protecting privacy (Awad & Krishnan, 2006; Sutanto et al., 2013).

Different researchers have explained personalization-privacy paradox differently. They had used terms like, benefits versus risk, gain versus loss, and approach-avoidance (Lee & Rha, 2016). However, the paradox is the internal conflict of consumer between opting for personalized services and securing personal information and how much information to provide. All these calculations sum up to personalization-privacy paradox.

According to past literatures it is seen that personalization has positive effect on consumer's intention to use personalization services, while privacy concerns has negative effects on the same. For instance, according to (Awad & Krishnan, 2006), the benefits and risks of personalization and privacy respectively depend upon the service context. While according to (Sutanto et al., 2013), the level and amount of information provided by consumers to marketers creates paradox. As propounded by (Lee & Rha, 2016), personalization-privacy paradox is mostly seen in the situations where the information is collected through mobile phones. Most of

these information are through location-aware marketing (Xu et al., 2011) or social networking services (Utz & Kramer, 2009). As noted by (Sutanto et al., 2013), The direct relationship between Smartphone and its users provides identification, differentiation and interaction individually with consumers and it also provides personalized information without time and location limitations (Sutanto et al., 2013).

Privacy Concerns

There have been several studies that have demonstrated the concept of privacy concerns. According to Baek and Morimoto, “privacy concern is a degree to which a consumer is worried about potential invasion of the right to prevent the disclosure of personal information to others”. Internet users are concerned about their privacy and personal data. They feel that behavioural targeting invades their privacy (McDonald & Cranor, 2009; Balebako et al., 2012; Juyal, 2018). People are seriously concerned about the process of gathering their information (Smit et al., 2014; Berger, 2010; Writz et al., 2007). According to Del Vecchio & Ndou (2010), “greater risk of a consumer is privacy violation”. Contrary to this there have been studies that show consumers are not that afraid to provide their details to marketers. For instance, Alnahdi et al., (2014), privacy concerns are not that pervasive and consumers will only show concerns towards the disclosure of their personal information when they are asked to think about privacy (Marreiros et al., 2017).

Prior research has well demonstrated that privacy concerns play a vital role in customer’s online purchasing behaviour (Chellappa & Sin, 2005; Awad & Krishnan, 2006; Tan et al., 2012; Ur et al., 2012; Setiowati & Dermawan, 2007; Kusumawati, 2017). According to Juyal (2018), the customer intentions are affected by lack of privacy and security. The more a customer is concerned about the invasion of his personal information the less likely he is to adopt personalized services. Therefore researcher proposes to understand the take of Indian consumers in this regard:

H₁: Customers intention to use online personalization is negatively associated with the degree of their privacy concerns.

Perceived Quality of Personalization

The quality of any personalization service on internet is described by its e-quality. There are several dimensions of e-quality. For instance, as noted by (Ribbink et al., 2004), ease of use website design, customization, responsiveness and assurance. Based on previous literature (Ribbnik et al., 2004; Madu & Madu, 2002; McKinney & Yoon, 2002; DeLone & McLean, 1992), this study covers two dimensions of quality of personalization: Ease of use, Usefulness (Figure 1).

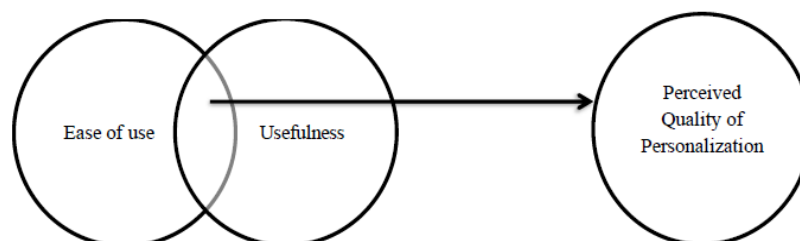


FIGURE 1
PERCEIVED QUALITY OF PERSONALIZATION

Ease of use means how easy a person gets acquainted to the technology. Therefore, it is an essential part of customer usage of computer technology (Davis, 1989; Venkatesh, 2000; Venkatesh & Davis, 2000). One of the dimensions of service quality is ease of use (Dabholkar,

1996). This helps in gaining customer satisfaction and increases “the efficiency of using a service” (Xue & Harker, 2002). According to (Reibstein, 2002), in the context of online services ease of use includes functionality, accessibility of information, ease of ordering and navigation. To understand whether Indian customers feel personalized services are user friendly or not and whether this phenomena is in association with their intention to use the services again or not, the following hypothesis was proposed:

Ha2: Customer Intention to use online personalization is positively associated with ease of use.

The second dimension for quality of personalization is usefulness. As mentioned by (Li & Unger, 2012), the usefulness of recommendations raised through online personalization is the major indicator of quality of personalization. “The degree of perceived usefulness can be measured by the degree to which the performance benefits of using a given application outweigh the effort require in order to use it” (Li & Unger, 2012; Davis, 1989). According to McKinney & Yoon (2002), reliability of personalized content is closely related to perceived usefulness. The level of consistency of products or services at a point in time determines reliability (Madu & Madu, 2002). Accuracy, trustworthiness, and consistency of information are covered in the context of reliability of personalization. Again, to have an in-depth analysis of Indian users of personalized services the researcher proposes the following hypothesis:

Ha3: Customers intention to use online personalization is positively associated with usefulness.

Approaching Different Segments of Consumers

Every consumer has different characteristics, and they form different segments. The segments of consumers in the realm of personalized services are quite difficult to form. Previous literature segmented consumers based on privacy concerns (Hoofnagle & King, 2008; Milne & Bahl, 2010). Some literature segmented consumers on age and privacy concerns (Turow et al., 2009). According to Smit, et al., (2014), groups of privacy concerns will show different patterns of coping behaviour. Hence the current study tries to create segments of customers based on quality of personalization.

METHODOLOGY

Preliminary Investigation

The survey was conducted on young adults less than 25 years of age. As youngsters under the age of 25 years comprise the most predominant segment of smart phone users in India (Internet & Mobile Association of India, 2017). To make sure the data is relevant enough for analysis, preliminary testing was done:

The definition of digital personalized services was given to the respondents, and they were asked to mention whether they use these services on smart phones or not. Those respondents who answered “Yes” were considered for the analysis.

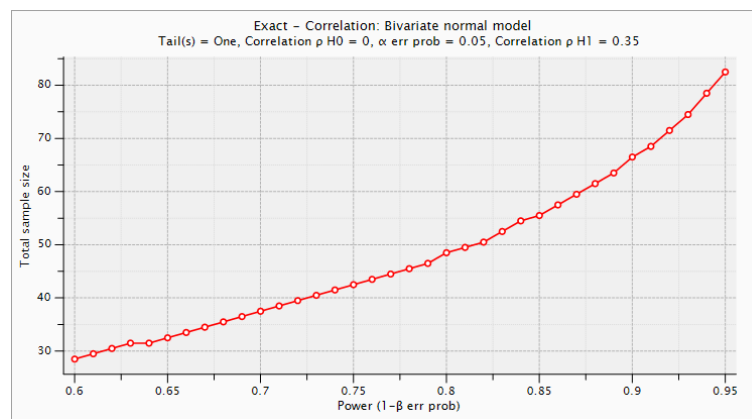
Sample Size

The researcher used G*power to calculate the sample size. Since, the current study focuses on the correlation it was analyzed that the best sample describing 95% power of the test will be 83 as shown in the table 1 and figure 2.

| | | |
|-----------|--|--|
| Exact | Correlation: Bivariate Normal Model | |
| Options | Exact Distribution | |
| Analysis: | A priori: Compute required sample size | |

| | | |
|---------|-----------------------------|-----------|
| Input: | Tail(s) | 1 |
| | Correlation P H1 | 0.35 |
| | α err prob | 0.05 |
| | Power (1- β err prob) | 0.95 |
| | Correlation P HO | 0 |
| Output: | Lower critical r | 0.1817953 |
| | Upper critical r | 0.1817953 |
| | Total sample size | 83 |
| | Actual power | 0.9500045 |

It can also be seen in the figure 2 that as the power of the test increases to 95%, the sample size also increases to 83. So, with a sample of 83, the current study will demonstrate fairly perfect results with 95% power to reject a false null hypothesis and with significance level at 0.05. Also, the effect size was considered as 0.35 (Cohen, 1988).



**FIGURE 2
POWER OF THE TEST**

Now, based on these calculations, the researcher aimed to collect a sample of 250 respondents.

Profile of the Respondents

Out of the 250 respondents, only 246 were fit for the analysis; as remaining 4 respondents marked ‘no’ in the preliminary question. Of these 246 respondents, there were 131 (53.25%) females and 115 (46.75%) males. On average 39.5% respondents spend 3-5 hours on internet for non-work purposes. And about 1-3 hours are used by the respondents (41.9%) on personalized services applications.

Measuring Instruments

The questionnaire was adapted from past literatures. There were four variables that were considered in this study; Ease of use (of mobile applications providing personalized services), Usefulness (of the personalized services), Privacy concerns, and Intention of using personalized services. All the items of these four variables were measured on 7-point scales, with 1 as strongly disagree and 7 as strongly agree. The literatures used for creating items are mentioned in the Table 2:

| Table 2 | | |
|---|---|--|
| MEASURING ITEMS WITH THEIR SOURCES | | |
| Variables | Items | References |
| Ease of Use | 1. I find it easy to learn the application operation. | Davis (1989); Reibstein (2002) |
| | 2. My interaction with the application is clear. | |
| | 3. My interaction with the application is understandable. | |
| | 4. Overall I find // easy to use. | |
| Usefulness | 1. Important to me. | Adopted from Kim (2013) |
| | 2. Meaningful to me | |
| | 3. Created just for me | |
| | 4. Useful to me. | |
| | 5. Relevant to my needs | |
| Privacy Concerns | 1. I get concerned that my online activity history could be misused | Adapted from Smit et al., (2014); Chen et al., (2019) |
| | 2. I get concerned what others might do with my online activity history | |
| | 3. I got concerned that my data collected from online activity history could be used in a way I did not foresee | |
| | 4. I worry about receiving ads in which I 'm not interested | |
| | 5. I fear that the information I stored with online shopping site has not been stored safely | |
| | 6. I feel uncomfortable when data is shared without permission | |
| Intention to use personalized services | 1. I/am interested in using the personalized services | Adapted from Xu et al., (2011) |
| | 2. I am interested in buying the personalized services | |
| | 3. I am likely to visit the associated application of the services. | |
| | 4. I/am likely to consider the personalized services | |

Exploratory Factor Analysis

EFA was conducted to find the initial construct validity. After removing two items “created just for me” and “I am likely to visit the associated application of the service” the value of Kaiser-Meyer-Olkin (KMO) test increased to 0.790. Hence the data was adequate. Also, the correlation test was conducted through Bartlett’s test of Sphericity and it was measured 0.000,

which is highly significant. Total variance was also explained as 70.751%, which is quite significant.

Reliability

After conducting EFA, the researcher did reliability analysis and found that all the variables are reliable as shown in the table 3 below:

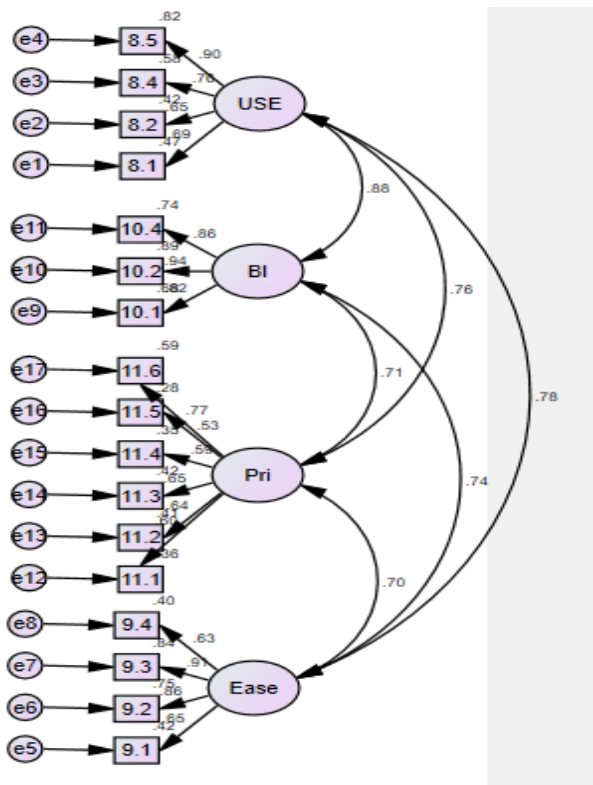
| Variables | Alpha | Items |
|--|--------------|--------------|
| Usefulness | 0.836 | 4 |
| Ease of Use | 0.842 | 4 |
| Privacy Concerns | 0.777 | 6 |
| Intention to use personalized services | 0.906 | 3 |

Normality of the Data

To check the normality of the data, the researcher user skewness and kurtosis tests. The values of skewness and kurtosis in the current study came from benign to 1.262 and 1.048 respectively. These values are under the range described by Sposito (1983); Kline (2010). So, we may conclude our data as normal. So, we will be able to use probabilistic test.

Confirmatory Factor Analysis

To test the fitness of the model, CFA was used. The measurement model could be seen in the figure 3 given below:



**FIGURE 3
CONFIRMATORY FACTOR ANALYSIS**

Keys: USE-Usefulness, BI-Intention, Pri-Privacy concerns, Ease-Ease of use.

Also, the model was fit, as The SMRM was measured as 0.0878 (<0.8), and other criteria to measure the fitness of the model were CMN/df, GIF, RMSEA; and their calculated values were 2.609 (<3), 0.803 (>0.8), 0.175(<0.8) respectively. So, this is apt to say that the model was fit. Now, the data could be used for further hypothesis testing.

HYPOTHESIS TESTING AND ANALYSIS

Ha1: Customers intention to use online personalization is negatively associated with the degree of their privacy concerns.

Ha2: Customers Intention to use online personalization is positively associated with ease of use.

Ha3: Customers intention to use online personalization is positively associated with usefulness.

Here, there are two variables in every hypothesis namely; privacy concerns and customer's intention, ease of use and customer's intention, and usefulness and customer's intention. And to test the association between them Pearson correlation was used on one-tail. The following table 4 showcases the values of correlation between the variables:

| | | Usefulness (PU) | Ease of Use (EU) | Privacy Concern (PU) |
|--|---------------------|-----------------|------------------|----------------------|
| Intention to online use personalization (OP) | Pearson Correlation | 0.779 | 0.638 | -0.609 |
| | Sig. (1-tailed) | 0 | 0 | 0 |
| | N | 246 | 246 | 246 |

It is clear from the table that customer intention is positively correlated with usefulness and ease of use. This allows us to accept our alternate hypothesis 2 and 3. It can be understood from these values that, customers intention to use personalized products/services highly depend upon the quality of the services. When a customer feels the product/service quality is good in terms of importance and user friendly, then tends to show positive intention towards those services.

Also, we accept the first alternate hypothesis and say that privacy concerns are negatively related to intention of the customers. So, it can be inferred that due to the characteristics of personalized services *i.e.*, capturing and using personal information, the respondents felt that their privacy has been invaded and they therefore showed negative association with intention to use these services.

To find out which variable is necessary for analyzing the intention of using personalized services, we created correlation matrix (Annexure). And it was recognized that the quality of personalized service application shows strong association with the intention of using personalized services (Annexure). To create segments of consumers, we first conducted Hierarchal clustering technique, and found that 3 clusters would be appropriate. Then K-mean clustering was used. The three clusters then formed could be named as: Bureaucrat perceiving low quality of personalization, Artist perceiving medium quality of personalization and Scientist perceiving high quality of personalization. Hence, customers can be segmented based on their perceived quality of personalization. Each segment has different characteristics.

| Characteristics | | Level of personalization | |
|-----------------|----------------------------|--------------------------|---------------------------|
| | Bureaucrat (32.56%) | Artist (25.58%) | Scientist (41.86%) |

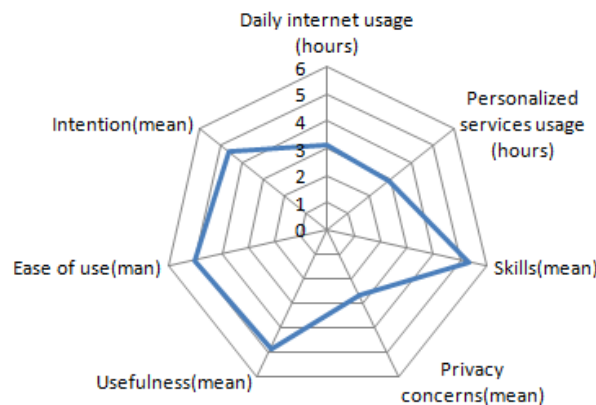
| | | | |
|-------------------------------------|--------|--------|--------|
| Gender (%female) | 34.78% | 21.74% | 43.48% |
| (% males) | 30% | 5% | 65% |
| Daily internet usage(hours) | 3.14 | 2.5 | 3.18 |
| Personalized services usage (hours) | 2.86 | 1.72 | 3.27 |
| Skills(mean) | 5.31 | 6.36 | 6.54 |
| Privacy concerns(mean) | 2.69 | 1.95 | 1.47 |
| Usefulness(mean) | 4.84 | 5.99 | 6.36 |
| Ease of "use(man) | 5 | 6.15 | 6.32 |
| Intention(mean) | 4.67 | 6.04 | 6.55 |

After analyzing the groups many observations were made. The profiles of clusters are well explained in the section below.

The Bureaucrats

Respondents belonging to the cluster of Bureaucrats showcased more privacy concerns and felt quality of personalization was less. Females are more as compared to males. They have less skills of using internet and hence spend more time in search for relevant products. They are conscious about their privacy; hence expects conformity. Due to their high level of privacy concerns and low quality of personalization, it is difficult to cater their needs. Therefore, it's challenging for marketers to keep them assured.

It is important for marketers to decrease the level of privacy concerns and further increase the quality of personalization. It will help in building the trust and will encourage the Bureaucrats to use more personalized services.



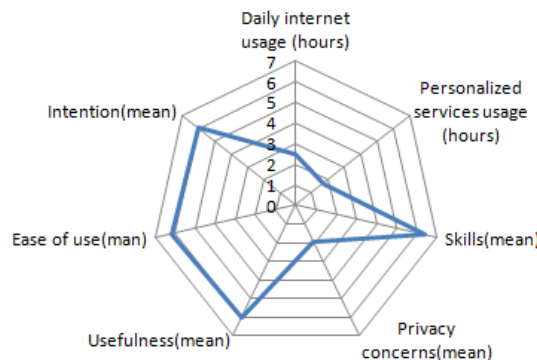
**FIGURE 4
RADAR ANALYSIS FOR BUREAUCRATS**

The Artists

Respondents of second clusters are less privacy conscious as compared to the Bureaucrat. And the quality of personalization is moderate. They are fairly skilled in using internet, but spent less time in using personalized services. So, it is difficult for them to create a

genuine opinion related to personalized services. They showcase a huge unpredictability. Therefore, it is challenging for marketers to keep them engaged.

It will be beneficial to increase the business value of personalized services because the artists understand the utility of personalization. And it will help in increasing their engagement. This will create a better customer relationship.

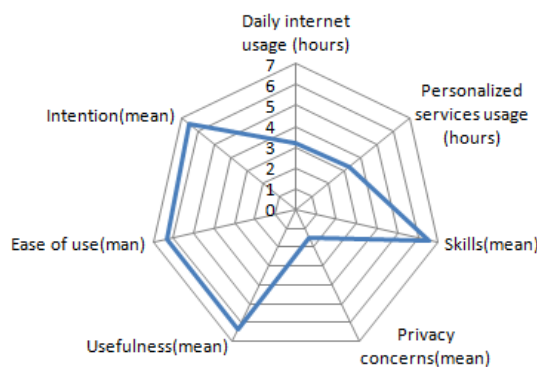


**FIGURE 5
RADAR ANALYSIS FOR ARTISTS**

The Scientists

Respondents belonging to the third cluster *i.e.*, the Scientists; are highly engaged in internet usage and so does in using personalized services. Majority of them are males. They are least concerned for their privacy and are highly transparent in sharing their personal information to marketers. They are explorer and enjoy the uniqueness of personalized services. Though they showcased high intention of using personalized services again but they are highly engaged in experiments as they spent majority of their time on internet in search for relevant services. So, the challenge in front of marketers is to keep providing them novelty.

The scientists are strong prospects but they can move away so they need to be retained. For this, businesses must provide them with new and engaging personalized services based on their individual identity.



**FIGURE 6
RADAR ANALYSIS FOR SCIENTISTS
CONTRIBUTION OF THE STUDY**

This study opens the new avenues of researcher in the field of personalized services in the context of India. The study aimed to understand the intention of customers towards personalized service applications. For this, the study focused on two aspects: privacy concerns and quality of personalization. The parameter of privacy concerns, negatively affects the

intention to use personalized services. While the second parameter namely; quality positively affects the intention to use personalized services.

In digital marketing, personalization has been recognized as an important tool to improve customer relationships. The study allows looking at the implications of personalization from the view point of customers. Improving the quality of personalization will improve the intentions to use personalized services. Digital marketing often comes up with privacy concerns. This study aptly describes that and recommends building the trust among consumers.

The current study also provides managerial implications. We segmented the respondents into three groups based on how they perceive the quality of personalization: The Bureaucrats, The Artists, and the Scientists. The latter group is highly in favour of quality of personalization, and is less privacy conscious. And the bureaucrats feel their data has been misused and in return they did not get good quality of services. So, marketers and advertisers should address these internet users about their emotional aspects of online risks. The only way to increase the intention is to increase the quality of personalization. And it is only this quality that could overcome privacy concerns. Making the consumers aware about their data protection methods and increasing the skills could also help in achieving the aim of increasing the intention of using the personalized services.

Keeping these points on mind future researchers could focus on how privacy concerns affect the positive relation of quality and intentions. Future researchers could also focus on other aspects of measuring quality of personalization. Concentration should also be towards the coping behaviour of consumer with high privacy concerns and its effect on intention towards personalization service usage.

REFERENCES

- Acquisti, A. (2004). "Privacy in electronic commerce and the economics of immediate gratification". *In Proceedings of the 5th ACM Electronic Commerce Conference, 21-29, New York: ACM Press.*
- Acquisti, A., Brandimarte, L., & Loewenstein, G. (2015). "Privacy and human behavior in the age of information". *Science, 347*(6221), 509-514.
- Acquisti, A., & Grossklags, J. (2005). "Uncertainty, ambiguity and privacy". *In fourth workshop on the economics of information security (WEIS05).*
- Sangdow, A., Maged, A., & Kholoud, A. (2014). "The effectiveness of online advertising via the behavioural targeting mechanism". *The Business and Management Review, 5, 1*
- Farag, A.N., & Krishnan, M.S. (2006). "The personalization-privacy paradox: An empirical evaluation of information transparency and the willingness to be profiled online for personalization". *MIS Quarterly, 30*(1), 13-28.
- Rebako, B.G., Pedro, L., Richard, S., Blasé, U., Yang, W., & Faith, C.L. (2012). "Measuring the effectiveness of privacy tools for limiting behavioural advertising". CMU. Retrieved from <http://lorrie.cranor.org/pubs/EffectivenessBA.pdf>
- Capponi, G., Corrocher, N., & Zirulia, L. (2021). "Personalized pricing for customer retention: Theory and evidence from mobile communication". *Telecommunications Policy, 45*(1), 102069. Retrieved from doi:10.1016/j.telpol.2020.102069
- Chellappa, R.K., & Sin, R.G. (2005). "Personalization versus privacy: An empirical examination of the online consumer's dilemma". *Information Technology and Management, 6*(2-3), 181-202
- Qi, C., Yuqiang, F., Luning, L., & Xianyun, T. (2019). "Understanding consumers' reactance of online personalized advertising: A new scheme of rational choice from a perspective of negative effects". *International Journal of Information Management, 44*, 53-64.
- Jacob, C. (1988). *Statistical power analysis for the behavioural sciences, (2nd edition)*. Lawrence Erlbaum Associates, Publishers.
- Culnan, M.J., & Bies, R.J. (2003). "Consumer privacy: Balancing economic and justice considerations". *Journal of Social Issues, 59*(2), 323e342.
- Dabholkar, P.A. (1996). "Consumer evaluations of new technology-based self-service options: An investigation of alternative models". *International Journal of Research in Marketing, 13, 1, 29-51*
- Davis, F.D. (1989). "Perceived usefulness, perceived ease of use, and customer acceptance of information technology". *MIS Quarterly, 13*(3), 319-340.
- Pasquale, D., & Valentina, N. (2010). Customer knowledge and relational marketing: A Web 2.0 Perspective. *International Journal of Customer Relationship Marketing and Management, 1*(3).
- Delone, W.H., & Mclean, E.R. (1992). "Information systems success: The quest for the dependent variable". *Information Systems Research 3*(1), 60-95.

- Tamara, D., & Paul, H. (2006). An extended privacy calculus model for e-commerce transactions". *Information System Research*, 17, 1. Retrieved from <https://doi.org/10.1287/isre.1060.0080>
- Xitong, G., Yongqiang, S., Ziyu, Y., & Nan, W. (2012). "Privacy-personalization paradox in adoption of mobile-health service: The mediating role of trust". In *PACIS 2012 Proceedings, Paper 27*.
- Payam, H., Mehdi, B., & Hasanbad, H.M. (2014). Online advertising intermediary: How online advertising works. *International Journal of Online Advertising*, 4(1)
- Ho, S., & Tam, K. (2005). "An empirical examination of the effects of Web personalization at different stages of decision making". *International Journal of Human-Computer Interaction*, 19(1), 95e112
- Ying, H.S. (2009). "Panel: IS has outgrown the need for reference discipline theories, or Has it?" *European Conference on Information Systems Proceedings*.
- Hoofnagle, C.J., & King, J. (2008). "Research report: What Californians understand about privacy online". Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1133075
- Hoofnagle, C., King, J., Li, S., & Turow, J. (2010). "How different are young adults from older adults when it comes to information privacy attitudes and policies?" Research Report, Retrieved from <http://dx.doi.org/10.2139/ssrn.1589864>
- Yoonhyuk, J. (2014). "What a smartphone is to me: Understanding user values in using smartphones". *Information System Journal*, 24(4), 299-321.
- Juyal, S.A. (2018). An empirical study on factors influencing shoppers' online buying behavior. *International Journal of Online Marketing*, 8(1), 55-79. doi:10.4018/ijom.2018010104
- Juyal, S.A. (2018). An empirical study on factors influencing shoppers' online buying behaviour: A study in Dehradun and Haridwar Districts of Uttrakhand, India. *International Journal of Online Marketing*, 8(1).
- Katta, R.M.R., & Patro, C.S. (2020), Consumers' perceived value in internet shopping: An Empirical Study. *International Journal of Customer Relationship Marketing and Management*, 11, 2
- Hyejin, K. (2013). "Exploring the effect of perceived relevance and privacy concerns on consumer responses to online behavioral advertising". Retrieved from https://conservancy.umn.edu/bitstream/handle/11299/160154/Kim_umn_0130M_14159.pdf?sequence=1&isAllowed=y
- Simon, K. (2016). "Digital marketing strategy: An integrated approach to online marketing, kogan page, E-ISBN 978 0 7494 7471 3
- Kline, R.B. (2010). *Principles and practice of structural equation modeling*. The Guilford Press, New York
- Kumar, N., & Benbasat, I. (2006). "The influence of recommendations and consumer reviews on evaluation of websites". *Information Systems Research*, 17(4), 425-239.
- Andriani, K. (2017). "Consumer attitude towards online behavioural advertising: The social media involvement". *Journal of Emerging Trends in Marketing and Management*. Retrieved from <http://www.etimm.ase.ro/?p=154>
- Hun, L.C., & David, C.A. (2011). "Personalization-privacy paradox: The effects of personalization and privacy assurance on customer response to travel websites". *Tourism Management*, 32, 987-994
- Jin-Myong, L., & Jong-Youn, R. (2016). "Personalization-privacy paradox and consumer conflict with the use of location based mobile commerce". *Computers in Human Behaviour*, 63, 453-462.
- Ting, L., & Till, U. (2012). "Willing to pay for quality personalization? Trade-off between quality and privacy". *European Journal of Information System*, 21, 621-642.
- Liang, T.P., Lai, H.J., & Ku, Y.C. (2007). "Personalized content recommendation and user satisfaction: Theoretical synthesis and empirical findings". *Journal of Management Information Systems*, 23(3), 45-70.
- Madu, C.N., & Madu, A. (2002). "Dimensions of e-quality". *International Journal of Quality and Reliability Management*, 19(3), 246-258.
- Helia, M., Micro, T., Michael, T., & Schraefel, M.C. (2017). "Now that you mention it: A survey experiment on information, inattention and online privacy". *Journal of Economic Behaviour and Organization*, 140, 1-17.
- Aleecia, M., & Faith, C.L. (2009). "An empirical study of how people perceive online behavioral advertising". CMU-CyLab-09-015. Retrieved from https://www.cylab.cmu.edu/_files/pdfs/tech_reports/CMUCyLab09015.pdf
- Mckinney, V., & Yoon, K. (2002). "The measurement of web-customer satisfaction: An expectation and disconfirmation approach". *Information Systems Research*, 13(3), 296-315.
- Milne, G.R., & Bahl, S. (2010). "Are there differences between consumers' and marketers' privacy expectations? A segment- and technology-level analysis". *Journal of Public Policy & Marketing*, 29(1), 138-149
- Mobile Internet Report. (2017). Retrieved from <https://cms.iamai.in/Content/ResearchPapers/2b08cce4-e571-4cfe-9f8b-86435a12ed17.pdf>
- Mulvanna, M., Anand, S., & Büchner, A. (2000). "Personalization on the net using web mining". *Communications of the ACM*, 48(8), 122e125.
- Pew Research Center. (2014). "Public perceptions on privacy and security in the post-snowden era". Pew Research Center. Retrieved from <https://www.pewinternet.org/2014/11/12/public-privacy-perceptions/>
- Joseph, P., Glen, N., & Elizabeth, F. (2000). "Privacy concerns and consumer willingness to provide personal information". *Journal of Public Policy and Marketing*. 19(1), pp- 27-41.
- Phutela, N., & Altekar, S. (2019). Mobile wallets in India: A framework for consumer adoption. *International Journal of Online Marketing*, 9(2).

- Reibstein, D.J. (2002). "What attracts customers to online stores, and what keeps them coming back?". *Journal of the Academy of Marketing Science*, 30(4), 465-73
- Ribbink, D., Van Riel A., Liljander, V., & Streukens, S. (2004). "Comfort your online customer: Quality, trust and loyalty on the internet". *Managing Service Quality*, 14(6), 446-456.
- Rini, S., & Natalia, D. (2007). "Online behavioural intentions: An empirical investigation of antecedents and moderators". *Journal of Business Strategy and Execution*, 3(1), 1-23.
- Shahabi, C., & Kashani, F. (2003). "Efficient and anonymous web-usage mining for web personalization". *Journal on Computing*, 15(2), 123-147
- Bartel, S.K., & Grubbs, H.M. (2000). "Dimensions of privacy concern among online consumers". *Journal of Public Policy and Marketing*, 19(1), 62-73.
- Sheng, H., Nah, F.F.H., & Siau, K. (2008). "An experimental study on ubiquitous commerce adoption: Impact of personalization and privacy concerns". *Journal of the Association for Information Systems*, 9(6), 344e376.
- Sheng, H., Nah, F., & Siau, K. (2005). "Values of silent commerce: A study using value-focused thinking approach". In *Proceedings of the Eleventh Americas Conference on Information Systems*, 1869-1881
- Edith, S.G., Van, N.G., & Hilde, V.A.M. (2014). "Understanding online behavioral advertising: User knowledge, privacy concerns and coping behavior in Europe". *Computers in Human Behavior*, 32, 15-22. Retrieved from <http://dx.doi.org/10.1016/j.chb.2013.11.008>
- Smith, H.J., Dinev, T., & Xu, H. (2011). "Information privacy research: An interdisciplinary review". *MIS Quarterly*, 35(4), 989-1016.
- Sposito, V.A., Hand, M.L., & Skarpness, B. (1983). On the efficiency of using the sample kurtosis in selecting optimal lpestimators. *Communications in Statistics-simulation and Computation*, 12(3), 265-272.
- Sutanto, J., Palme, E., Tan, C.H., & Phang, C.W. (2013). "Addressing the personalization-privacy paradox: An empirical assessment from a field experiment on Smartphone Users". *MIS Quarterly*, 37(4), 1141-1164
- Juliana, S., Elia, P., Chuan-Hoo, T., & Wei, P.C. (n.d). "Addressing the personalization-privacy paradox: An Empirical assessment from a field experiment on smartphone users". *MIS Quarterly*, 37(4), 1141-1164.
- Tam, K.Y., & Ho, S.Y. (2006). "Understanding the impact of web personalization on user information processing and decision outcomes". *MIS Quarterly*, 30(4), 865-890
- Xin, T., Li, Q., Yongbeon, K., & Jeffery, H. (2012). "Impact of privacy concerns in social networking web sites". *Internet Research*, 22(2), 211-233.
- Tewari, G., Youll, J., & Maes, P. (2003). "Personalized location-based brokering using an agent-based intermediary architecture". *Decision Support Systems*, 34(2), 127-137.
- TRUSTe. (2014). "Consumer opinion and business impact". TRUSTe Research Report. Retrieved from http://info.truste.com/lp/truste/Web-Resource-HarrisConsumerResearchUS-ReportQ12014_LP.html
- Turow, J., King, J., Hoofnagle, C.J., Bleakley, A., & Hennessy, M. (2009). "Americans reject tailored advertising and three activities that enable it". Annenberg School of Communication, Departmental Papers. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1478214
- Blasé, U., Giovanni, L.P., Faith, C.L., Richard, S., & Yang, W. (2012). "Smart, Useful, Scary, Creepy: Perception of Online Behavioural Advertising". Retrieved from https://www.blaseur.com/papers/soups2012-oba_ur.pdf
- Utz, S., & Kramer, N. (2009). "The privacy paradox on social network sites revisited: The role of individual characteristics and group norms". *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 3(2). Retrieved from <http://cyberpsychology.eu/view.php?cisloclanku¼2009111001&article¼41>.
- Venkatesh, V. (2000). "Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the technology acceptance model". *Information Systems*, 11, 4, 342-65
- Viswanath, V., & Fred D. (2000). "A theoretical extension of the technology acceptance model: Four Longitudinal Field Studies". *Management Science*, 46(2), 186-204
- Jochen, W., May, O.L., & Jerome, W.D. (2007). "Causes and consequences of online privacy concerns". *International Journal of Service Industry Management*, 18(4), 326-348. Retrieved From doi: 10.1108/09564230710778128
- Xu, H., Luo, X.R., Carroll, J.M., & Rosson, M.B. (2011). "The personalization privacy paradox: An exploratory study of decision making process for location-aware marketing". *Decision Support Systems*, 51(1), 42e52.
- Xu, H., Zhang, C., Shi, P., & Song, P. (2009). "Exploring the role of overt vs. Covert personalization strategy in privacy calculus". *Academy of Management Proceedings*, 1, 1-6.
- Xue, M., & Harker, P.T. (2002). "Customer efficiency: Concept and its impact on e-business management". *Journal of Service Research*, 4(4), 253-67.
- Hui, Z., Carol, X.O., Heuvel, W.J.A.M., & Hongwei, L. (2017). "Privacy calculus and its utility for personalization services in E-Commerce: An analysis of consumer preferences". *Information and Management*, 54(4), 427-437.

