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INFLUENCE OF DIGITAL FOOTPRINTS ON CONSUMER LOYALTY IN E-COMMERCE

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ABSTRACT

In today's generation where everything is digitalized, E-commerce is on the rise. In Behavioural economics many factors affect the intention of a consumer to purchase a good, however these intentions are largely influenced by marketers. This paper aims to examine how E-commerce sites influence the decisions of consumers by keeping a track of their digital footprints. This is achieved through online surveying respondents from varied age groups and professions. Through analysis of the results of the survey, it is shown how e-commerce businesses that do keep a track of the consumers' digital footprints with or without their knowledge are more successful in establishing greater consumer loyalty. The analysis of these results is linked with theories such as the theory of reasoned action as well as the technology acceptance model etc.

***KEY-WORDS**: Behavioural Intention, Digital footprints, E-commerce, Theory of reasoned action.*

INTRODUCTION

E-commerce is rising at an unparalleled pace across the globe, as this platform is the perfect combination of comfort, convenience, and luxury, people of all ages whether they are kids, millennials, or old love shopping from various e-stores. Market e-commerce today is powered largely by price and convenience: a good offer on easily shipped goods. For example, a smaller but the number of customers are beginning to demand more from e-commerce, having the opportunity to discover exclusive products that they won't find in big-box retail chains. The widespread adoption of ever more efficient smartphones with larger screens is enhancing the experience of e-commerce. Meanwhile, more and more retailers are optimizing their sites for mobile shopping. Together, these developments are turning the smartphone into a platform that can support the whole shopping journey, from product search and discovery to comparisons, recommendations, and payments. Meanwhile, growing numbers of

retailers are developing their mobile shopping pages. Together, these advances transform the smartphone into a tool that can accompany the entire shopping experience, from product quest and exploration through to reviews, suggestions, and payments. The internet has now become a constant main medium used in this modern era by every single person. The exponential growth in e-commerce is due in large part to primary factors such as comfort, simple accessibility, creative marketing strategies, and service delivery action. Consumer intention is the key principle in behavioral economics; online consumer intention is primarily influenced by social interaction. Social contact in the manner that two or more people communicate. With the growth of internet technologies, social media communication as well as other platforms have become the common medium that connects business to business, business to consumer as well as consumer to consumer.

Today, our financial systems rely heavily on footprints – credit records, banking, history, job trends, and past loans – to decide whether an individual can shop online, buy a house and ultimately take part in our economy. Due to the sheer data collected which is a mine of unexplored targeted marketing just waiting to happen, e-commerce is a growing field. Since technology has become an integral part of our society today, digging deeper into understanding the logic behind how each of us has revealed our personal lives through different digital channels used in our day-to-day lives will aid in analyzing the actions of how corporate corporations use this to their benefit. Big data and the Internet of Things allow marketers to gather and analyze vast information that has been gathered about their customers and how they use goods and technologies, leading to insights about how to best deliver about consumer needs. Marketers may use the data to offer personalized, digital footprint-based ads to users, very similar to what Facebook and Google do.

This research study seeks to examine marketing strategies fitted by tech giants that include the online collection and storage of customer digital footprints to improve consumer loyalty. Besides, to improve the virtual shopping experience, this paper will also discuss the ethicality of monitoring consumers' web activity without permission.

REVIEW OF LITERATURE

Definitions:

Digital Footprints:

A **digital footprint** is a term used on **social media, blogs, or chats** to identify the path and traces that people leave behind online. Your **online identity** and uniqueness is a digital imprint and is what makes you special. It creates **credibility online, or impression** depending on the things you do online.

E-commerce:

Ecommerce refers to the **purchase and sale of goods or services via the internet**, and the **transfer of money and data** to perform those transactions.

Consumer motivation:

Consumer motivation is an internal process that causes people to **recognize and purchase goods or services that satisfy the needs or expectations of conscious and unconscious people**. Meeting those needs will then inspire them to make a repeated purchase or to find various products and services to further satisfy those needs.

Consumer loyalty:

Customer loyalty can be described as the **loyalty and dedication** of a client towards a company. The loyalty measure is also focused **on customer expectations, degree of satisfaction, purchasing frequency, reliability, price sensitivity, and brand advocacy**.

Theory of Reasoned Action (TRA)

The TRA assumes that behavior is **predicted by the intention** of a person to engage in a particular behavior. The TRA suggests a subjective assessment of consumer behavior. The TRA suggests a subjective assessment of consumer **behavior norms** and **attitudes** towards the behavior and **behavioral intent** in question (Torben, Marie & Christina, 2012) and that **customer behavior** can be predicted based on those variables.The creators of the TRA theory IcekAjzen and Martin Fishbein believe that people make deliberate choices about how to act and that there is a lot of actions under the willful influence. Based on this, human beings chose this theory as to how to act, and that these decisions are usually fair. If actions are not entirely regulated by volition, even though an individual may be highly motivated by **their attitudes and subjective norm**, they may not actively practice the behavior due to environmental factors that interfere.

2.2 **The Relationship between Attitude on trust and Intention to Shop Online.**

Trust may be one of the attitudes to persuade or retain buyers or customers online to increase the purchasing product or service. Researchers conclude that online retailers have an attitude of **confidence in online business**, it is believed that customer shopping online and services would be optimistic and less risky. According to (Khalil & Nurul AqilaHasbullah et al. / Procedia Economics and Finance 35 (2016) 493 – 502 495 Michael, 2008), trust has been found to have a major positive impact on the intention to use online shopping. It is also endorsed by Lai & Wang, (2012) by saying that trust has a positive impact on online shopping online. Xing (2013) backed by showing that there are substantial online purchasing habits or intentions of people buying a particular product online with trusting online sources of knowledge. Chen and Barnes (2007) found the confidence to be a significant factor affecting **purchasing intent**. The final positive relationship between online trust and customer purchasing intentions endorsed by other scholars as well (Straub, 2001). It also backing Yulihasri et. Al. (2011) examined the influence of trust on the acceptance of online shopping and found that trust had a substantial positive effect on the intention to buy online.

The Relationship between Website Usability and Intention to Shop Online.

In their research, Barnes &Vidgen (2002) operationalized the 'usability' construct as customers view the website as easy to learn and run, easy to access, easy to use, and it is simple and understandable how engaging with the website. What's more, Childers et. In their empirical research, al. (2001) also found that the primary determinant of **behavioral intention** to use online shopping was **utility**. Thus, it is implied that online website usability is positively correlated with intention to buy online from customers. Syed &Norjaya (2010) claimed that the **design of the website** is one aspect that has been studied for usability, and it shows and is important. They said that both

existing and new, large and small enterprises now use the Internet as a means of selling their goods and services (for example Dell computer, Amazon.com, in the world and jobstreet.com, blooming.com, lelong.com, mudah.my, and many others in Malaysia). The website design must also be the key gateway for attracting consumers to have more impact on online shopping. The research shows that the websites that perform best in **customer service** have a major advantage in driving online sales, according to Aidil (2010). Other than that, the website design has earned the clearest support as factors that affect satisfaction with online shopping. Alam et al. (2008) considered website design to be one of the distinctive aspects of online shopping surroundings. Shergill and Chen, (2005) described **website design features as the dominant factor that affects the online buying preferences of consumers. The usability of the website is addressed as a key factor in building e-retailer trust** (Sharma & Gupta, 2006).

RESEARCH METHODOLOGY

The questionnaire was aimed at establishing a **cause and effect relationship between the use of digital footprints by an E-commerce brand/company and consumer loyalty**. The sample for the questionnaire was selected through **random sampling**. The questionnaire gathered **qualitative data** to produce contextual real-world knowledge about consumer behavior about the use of e-commerce. The survey consisted of **16 multiple choice questions and 5 open-ended questions**; the MCQ that inquired the participants on **their digital footprint** was taken off the internet from an existing survey and the questions regarding their opinions on e-commerce as well as their usage of e-commerce were formulated by the researcher. The questions were designed in such a way that it gathered **more opinions and viewpoints which was more subjective** rather than concrete objective data. The survey also consisted of a **consent form** to ensure the ethicality of the research was maintained; additionally, any sensitive or personal questions were avoided which would severely affect their willingness to reveal the truth. The surveys were made using **google forms** and were sent out to all the participants online via **WhatsApp** and the participants were **given 3 days** to answer the questions.

Demographic profile of the respondents:

Their data was collected from a list of **86 respondents chosen randomly**. The majority of the respondents were from the age group of **31-50 and were females**.

Hypothesis

"Companies that use digital footprints to predict consumer motivation online establish greater consumer loyalty."

Null Hypothesis

Consumer loyalty and the prediction of consumer motivation online for an E-commerce company are not affected by the storage of digital footprints of the consumers.

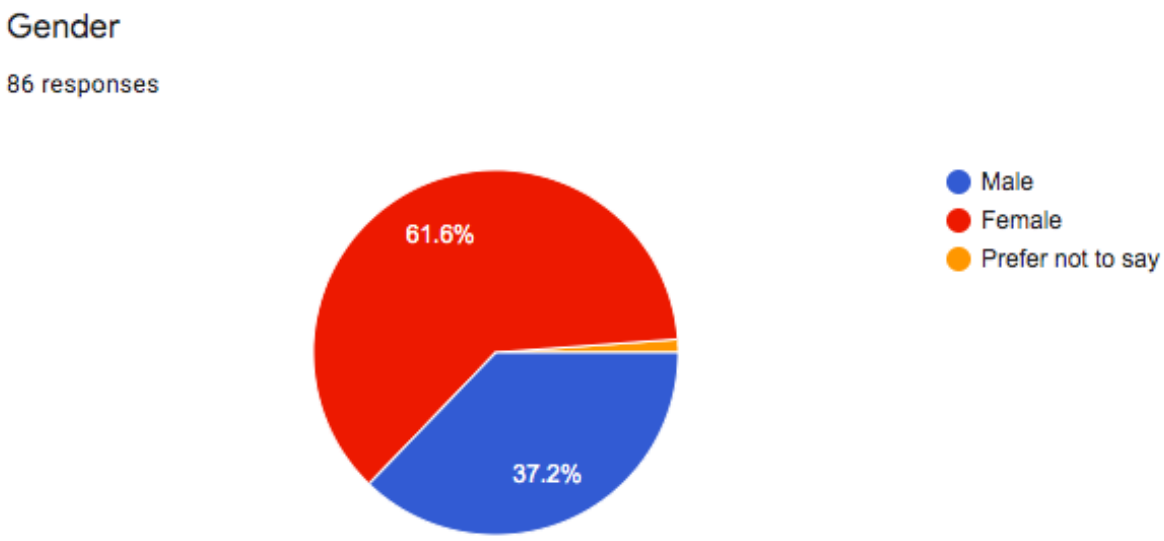
Alternative Hypothesis

The storage of digital footprints of the consumers by E-commerce companies does establish greater consumer loyalty.

DATA ANALYSIS

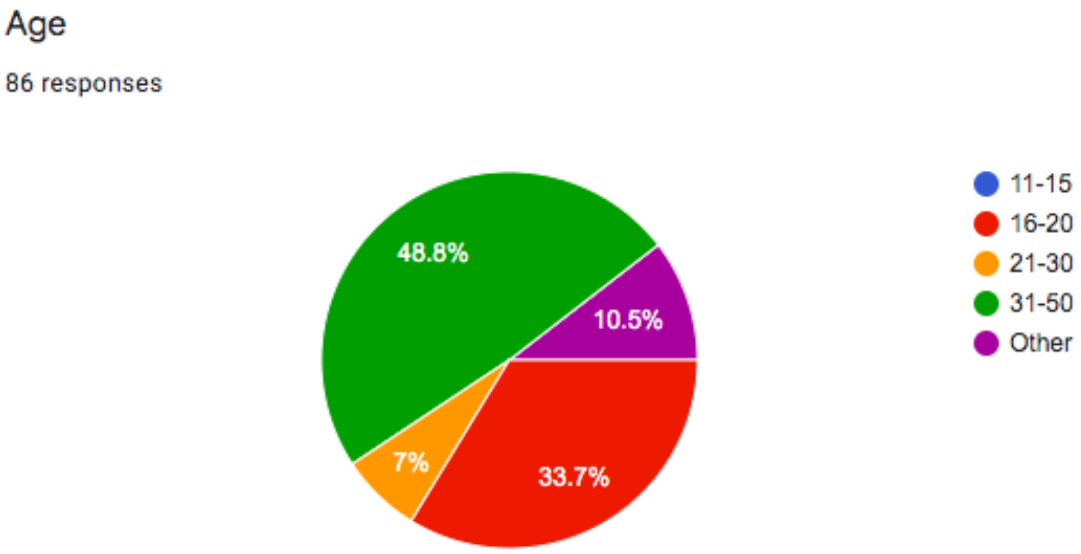
In the following section, all the data from the survey will be analyzed. Both the survey and the statistical representation were done using Google Forms.

Question 1 was about the gender of the participants.



Out of the 86 participants that responded, 61.6% (53people) were female, 37.2% (32 people) were male and 1.2% preferred not to say (1 person). This shows that the sample represented almost both genders almost equally.

Question 2 was about the age of the participants.

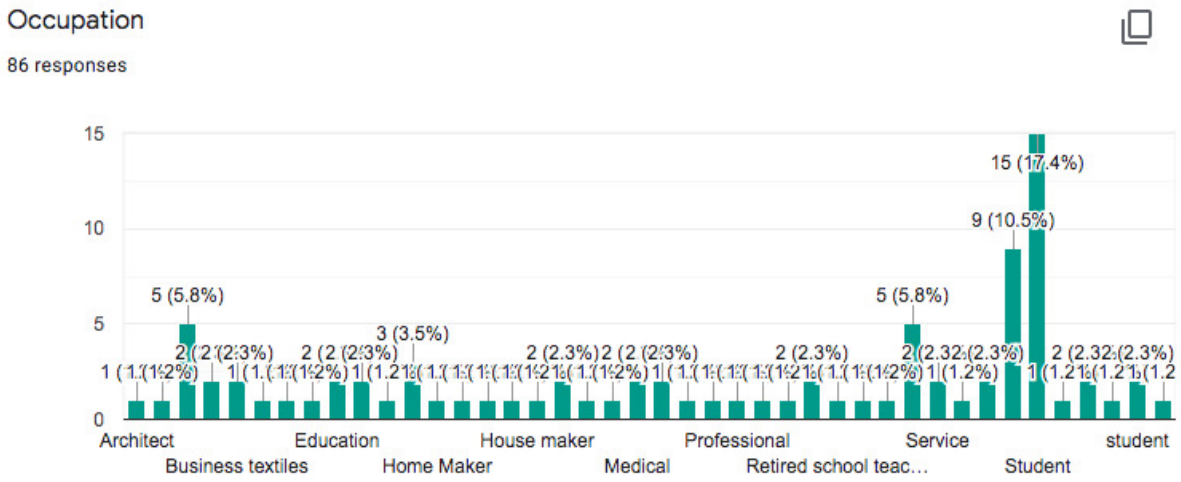


This question had five different options to choose from. The options consisted of different age brackets (11-15, 16-20, 21-30, 31-50 and other).

AGE (years)	PERCENTAGE AND NUMBER OF PARTICIPANTS
11-15	0% (0 respondents)
16-20	33.7% (29 respondents)
21-30	7% (6 respondents)
31-50	48.8% (42 respondents)
Other	10.5% (9 respondents)

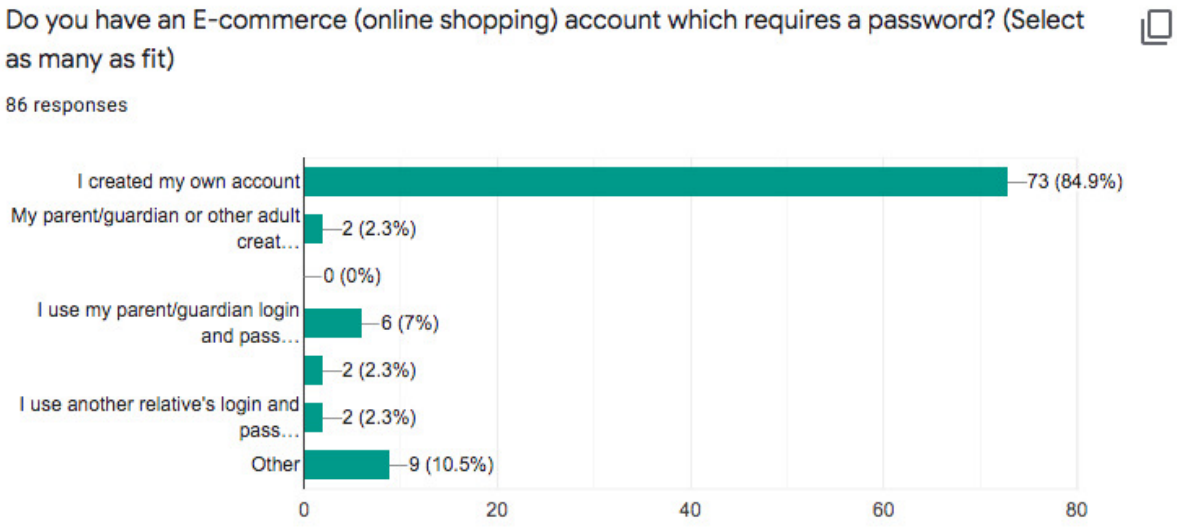
The age group of 31-50 years had the maximum number of responses i.e. 42 whereas the age group of 11-15 years had the minimum number of responses i.e. 0. The data was not distributed equally between the 5 age groups.

Question 3 was on the occupation of the participants. It was a short answer question without any options so the respondents were not restricted from their responses.



The data collected had the maximum number of respondents with the occupation as students i.e. 27.

Questions 4 was; "Do you have an E-commerce (online shopping) account which requires a password? (Select as many as fit)"

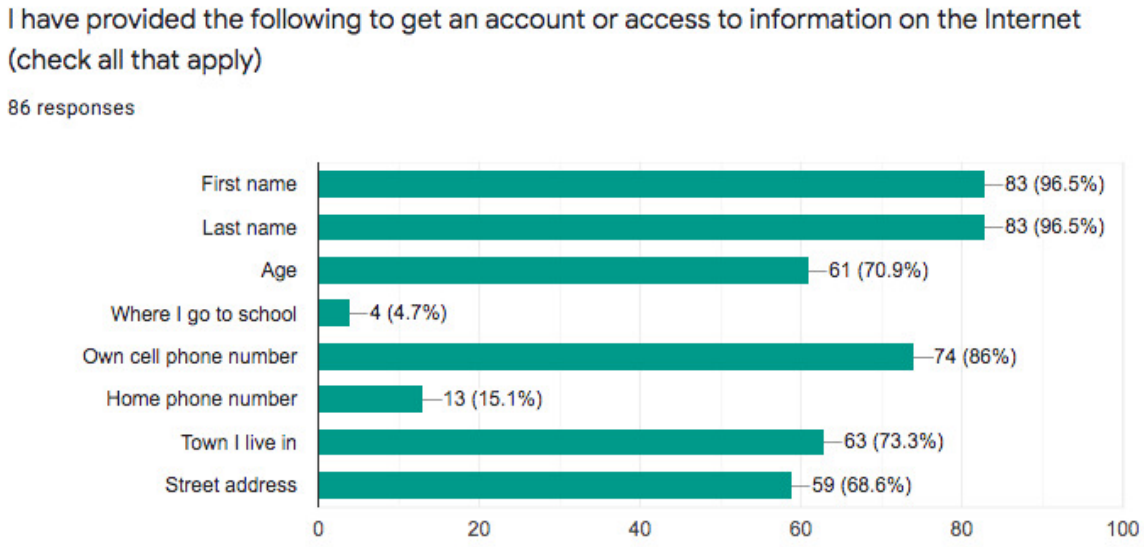


CHOICES	RESPONSES
I created my own account	84.9% (73 respondents)
My parent/guardian or other adult created an account I use	2.3% (2 respondents)
My older brother or sister created an account for me	0% (0 respondents)
I use my parent/guardian login and password	7% (6 respondents)
I use my brother or sister's login and password	2.3% (2 respondents)
I use another relative's login and password	2.3% (2 respondents)
Other	10.5% (9 respondents)

In this question, a vast majority of the respondents (i.e. 73 respondents) created their own

E-commerce account which required a password.This response explains how the majority of people with technology have a very convenient platform to create an account independently therefore perpetually storing their digital footprints. Additionally, the content generated by users such as posts, photos, videos and all the data generated through several online interactions is the backbone of social media, therefore widening the spectrum for access to the digital footprints of the users.As users indulge in these online services, they create platforms through which individuals, communities, and organizations can user-generated content or self-curated content posted online making it a highly interactive platform.

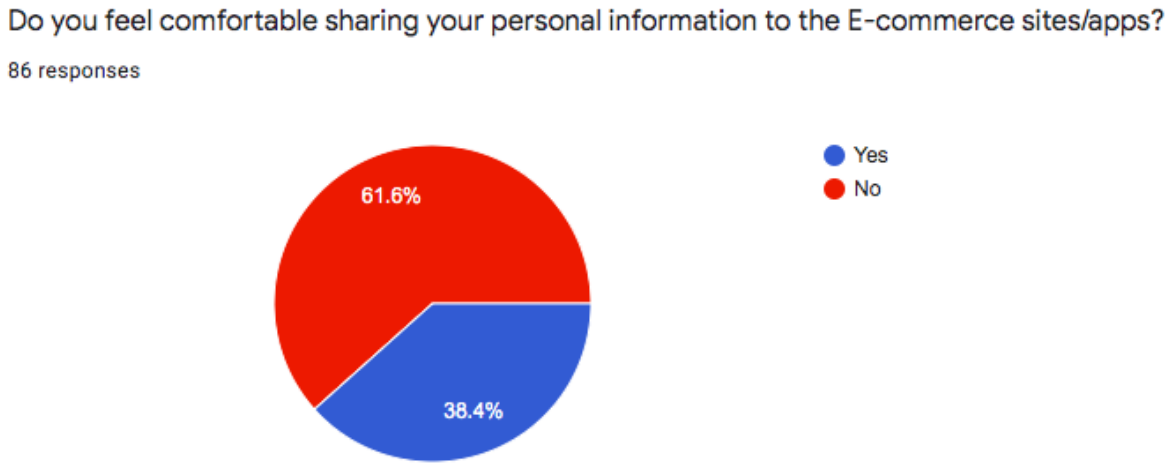
Question 5 was "I have provided the following to get an account or access to information on the Internet (check all that apply)"



CHOICES	RESPONSES
First name	96.5% (83 respondents)
Last name	96.5% (83 respondents)
Age	70.8% (61 respondents)
Where I go to school	4.7% (4 respondents)
Own cell phone number	86% (74 respondents)
Home phone number	15.1% (13 respondents)
Town I live in	73.3% (63 respondents)
Street address	68.6% (59 respondents)

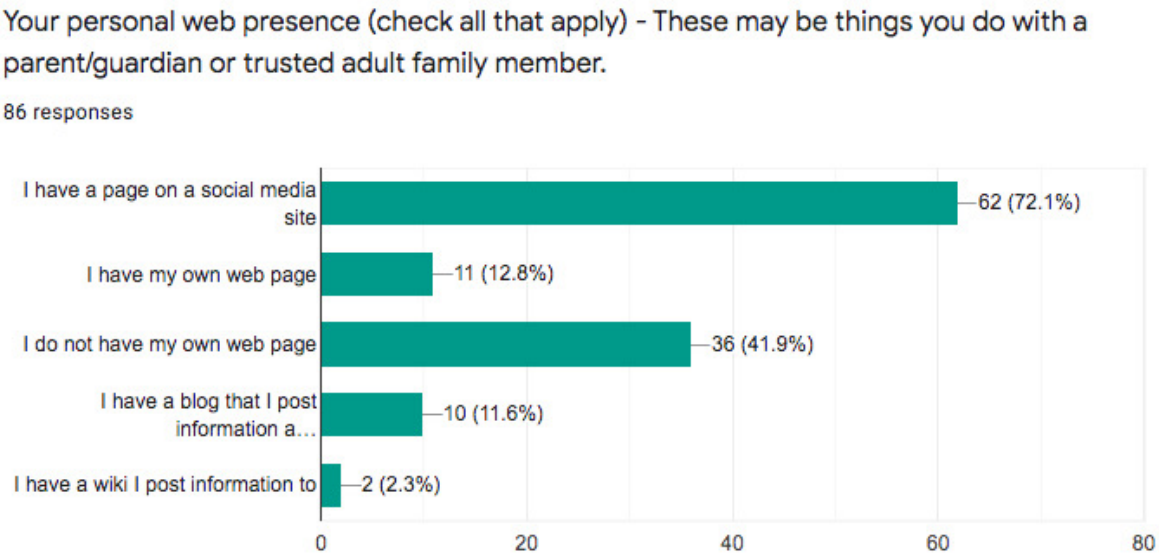
In this question, a vast majority of the respondents (i.e. 33 respondents) shared their first name and last name online, whereas the information "where I go to school" was shared by the least number of respondents. This collection of data represents how users are comfortable sharing their personal information online with/without prior knowledge of whether the data is a subject of the breach or not. Since we are living in a digital age where content from several sources is shared instantly and conveniently, users generally share information without giving it a second thought.

Question 6 was "Do you feel comfortable sharing your personal information with the E-commerce sites/apps?"



The majority of the respondents (61%, 53 respondents) responded with a yes whereas a minority of them (38.4%, 33 respondents) responded with a no. Many e-commerce sites clearly and directly ask users for their personal information using various means. However, multiple sites also track data about their users' browsing habits. This data can be matched with personal and demographic information to create a profile of user preferences. Sites usually use these profiles to selectively advertise to a target audience. Based on the assumption that users are usually unaware that sites record and store their digital footprints, they are more open to the idea of sharing personal information with e-commerce websites.

Question 7 was "Your web presence (check all that apply) - These may be things you do with a parent/guardian or trusted adult family member.

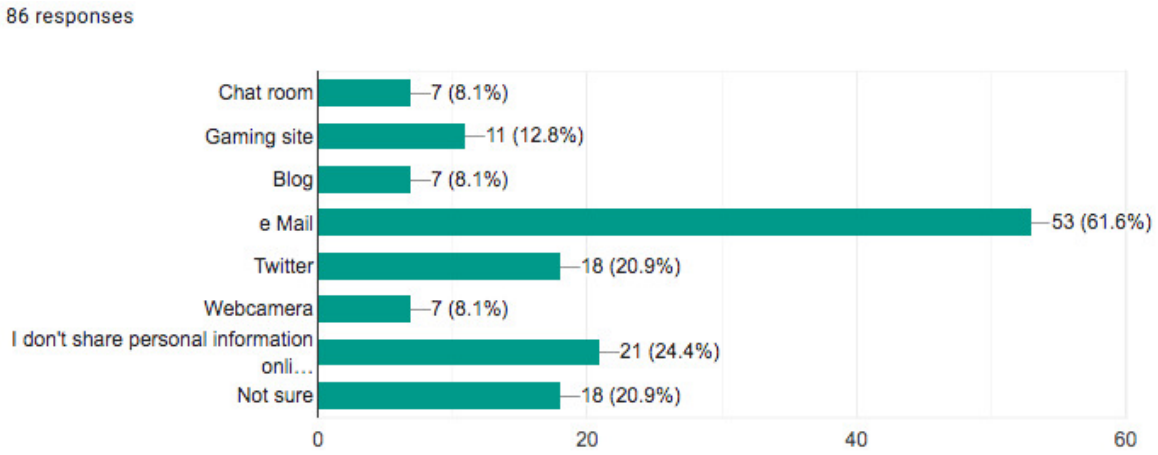


CHOICES	RESPONSES

I have a page on a social media site	72.1% (62 respondents)
I have my own web page	12.8% (11 respondents)
I do not have my own web page	41.9% (36 respondents)
I have a blog that I post information and pictures to	11.6% (10 respondents)
I have a wiki I post information to	2.3% (2 respondents)

Most of the respondents had a social media account (72.1%, 62 respondents) whereas barely any respondents had a wiki (2.3%, 2 respondents). In this digital age, the definition of ' Online Presence ' has changed. An online presence is the presence of an individual or business online that can be found via an online search. An online presence can consist of several things like websites, social media, search engines, etc.The exponential rate is mostly due to the increased use of technology.

Question 8 was "I have shared personal information to e-commerce websites using one or more of the following online"



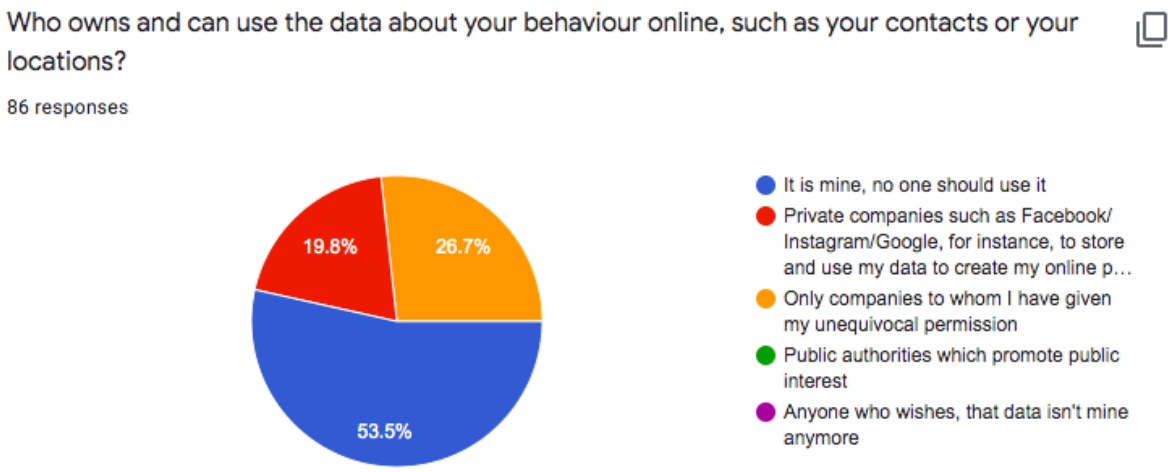
CHOICES	RESPONSES
Chat room	8.1% (7 respondents)
Gaming site	12.8% (11 respondents)
Blog	8.1% (7 respondents)
e Mail	61.6% (53 respondents)
Twitter	20.9% (18 respondents)
Web camera	8.1% (7 respondents)
I don't share personal information online	24.4% (21 respondents)
Not sure	20.9% (18 respondents)

Sharing of personal information to e-commerce websites has been done mostly through email (61.6%, 53 respondents) whereas the least amount of personal information has been shared through a web camera, chat room, and blog (8.1%, 7 respondents.)

Email is still one of the most used forms of communication due to the common features which allow users to share documents by emailing them across to the concerned party.

Moreover, most e-commerce websites make use of emails as a form of communication in comparison to the other forms mentioned above.

Question 9 was "Who owns and can use the data about your behavior online, such as your contacts or your locations?"

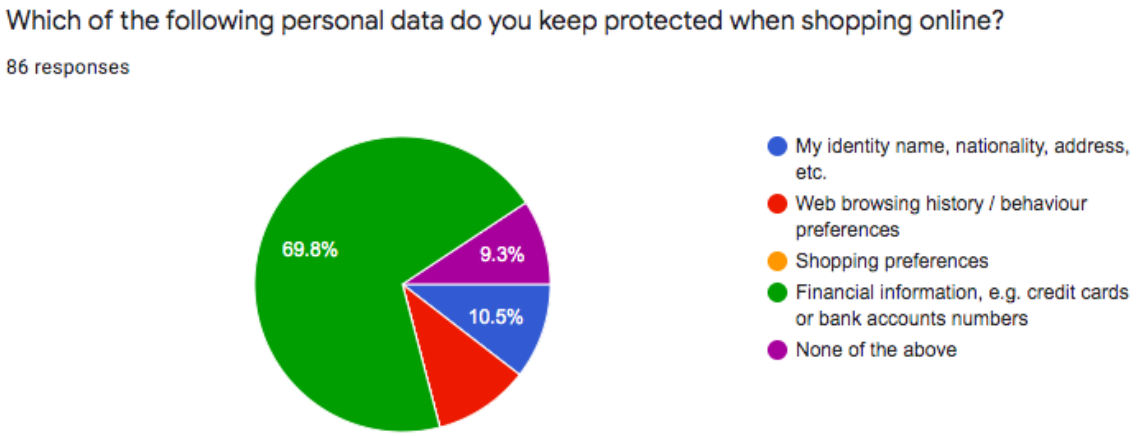


CHOICES	RESPONSES
It is mine, no one should use it	53.5% (46 respondents)
Private companies such as Facebook/Instagram/Google, for instance, to store and use my data to create my online profile	19.8% (17 respondents)
Only companies to whom I have given my unequivocal permission	26.7% (23 respondents)
Public authorities which promote public interest	0% (0 respondents)
Anyone who wishes, that data isn't mine anymore	0% (0 respondents)

More than 50% of the respondents were sure that their data must remain confidential and no one has the right to it, whereas 0 participants believed that public authorities that promote public interest had the right to their data or any random individual as well.

This proves how an increased awareness regarding the classification of information as private and not private causes the users to respond differently to their digital footprints.

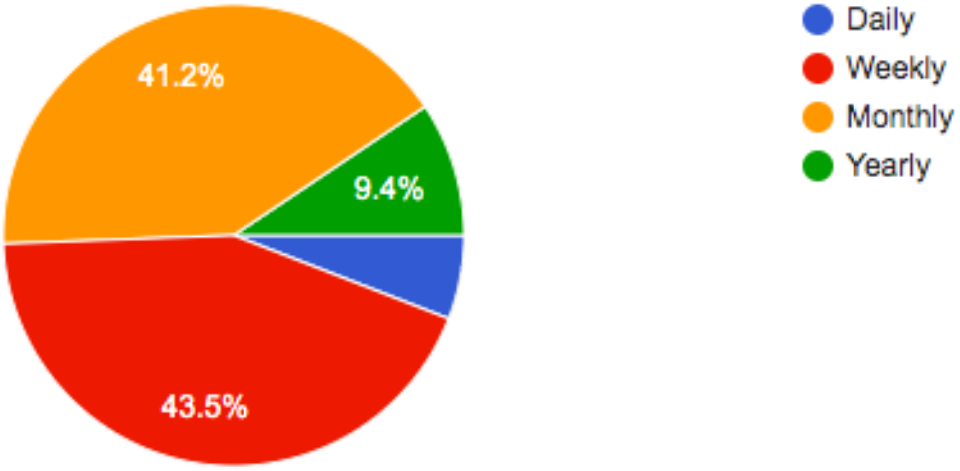
Question 10 was "Which of the following personal data do you keep protected when shopping online?"



CHOICES	RESPONSES
My identity name, nationality, address, etc.	10.5% (9 respondents)
Web browsing history / behaviour preferences	10.5% (9 respondents)
Shopping preferences	0% (0 respondents)
Financial information, e.g. credit cards or bank accounts numbers	69.8% (60 respondents)
None of the above	9.3% (8 respondents)

Most of the participants kept their financial information (60 respondents) private whereas none of the participants kept their shopping preferences private. The identity, nationality address, and web browsing history were kept private by an equal number of the respondents (9 respondents.)

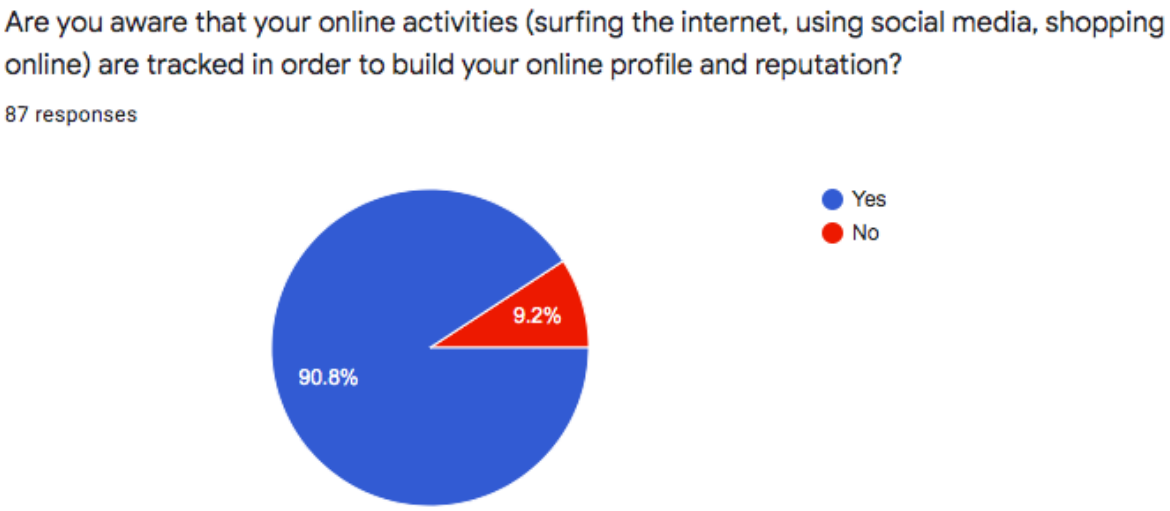
Question 11 was "How often do your online shop?



CHOICES	RESPONSES
Daily	5.9% (5 respondents)
Weekly	43.5% (47 respondents)
Monthly	41.2% (35 respondents)
Yearly	9.4% (8 respondents)

The maximum number of respondents shopped online weekly (47 respondents), a similar number of respondents shopped monthly (35 respondents.) The least number of respondents shopped online daily (5 respondents). This explains how users are constantly exposed to a breach of their online footprints weekly without their knowledge.

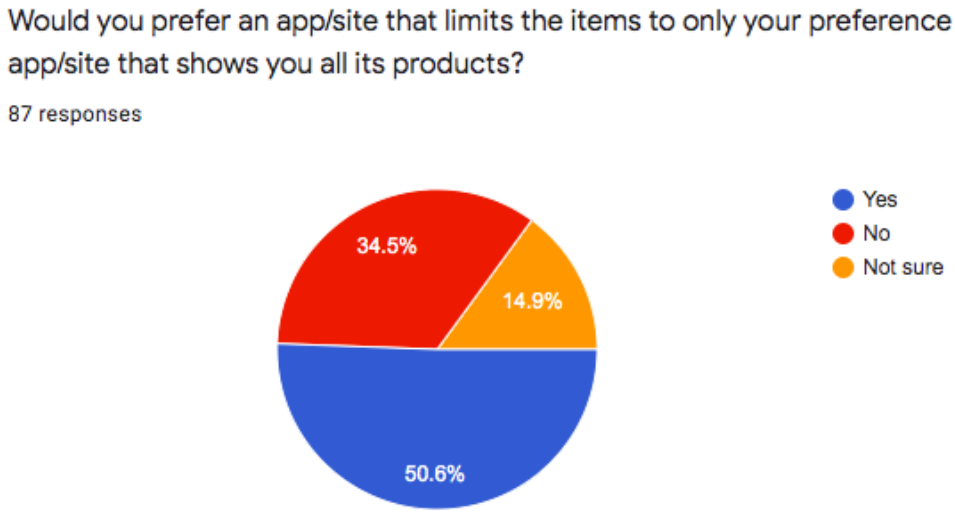
Question 14 was "Are you aware that your online activities (surfing the internet, using social media, shopping online) are tracked to build your online profile and reputation?"



The majority of the responses were yes (90.8%, 79 respondents), which explains that the users are fully aware that their basic online activities are tracked, however, based on the other responses the users are usually unaware that some of their data is being tracked as well.

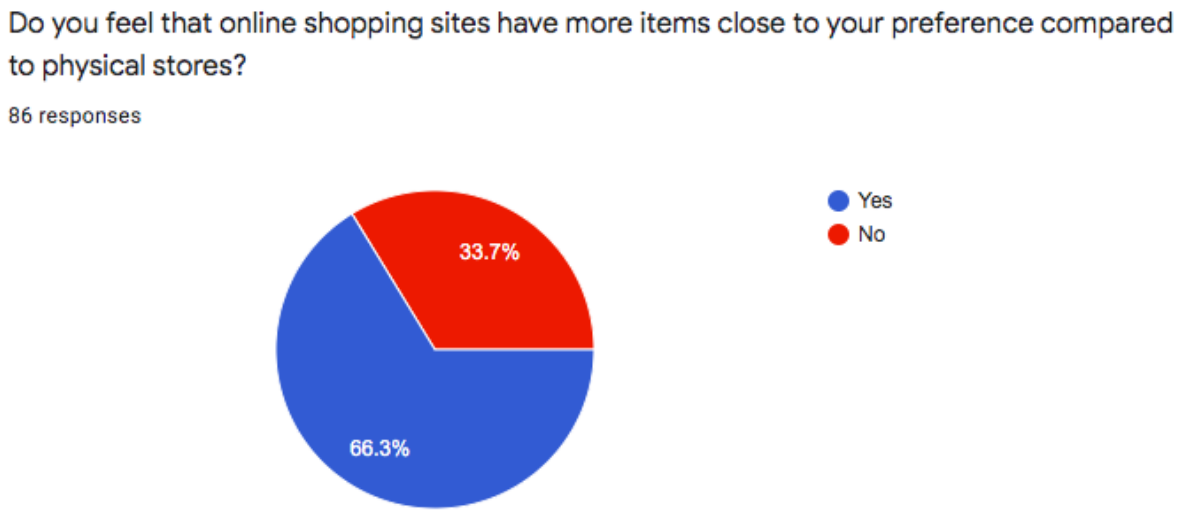
Website tracking is when websites track and collect information about online users to record their online behavior. This includes all the data that users enter via forms, for example, email addresses and credit card information. First-party tracking happens by the website the user chooses to visit. Whereas, third-party tracking, on the other hand, is that done by sites that a user doesn't visit. This is done by dropping a cookie onto the user's device. These cookies are commonly used for advertising purposes. The issue with third party tracking is that users usually don't realize their online activity is being tracked.

Question 15 was "Would you prefer an app/site that limits the items to only your preference compared to an app/site that shows you all its products?"



In this question around half (44 respondents) of the respondents selected yes, whereas 30 respondents replied with a no and 13 with not sure. According to several studies, the majority of consumers are more likely to shop with brands that personalize their experience

Question 18 was "Do you feel that online shopping sites have more items close to your preference compared to physical stores?"



More than half of the respondents chose the responses yes (66.3%, 57 respondents) whereas only 29 respondents selected no.

This response validates the fact that e-commerce websites do store the digital footprints of individuals either through first-party tracking or third party tracking. E-commerce has now turned the shopping experience into a social activity where consumers rely more on the opinions of their social circle[1].

RESULTS AND DISCUSSION

The sample was very **varied** including a wide range of ages as well as professions. This quality of the sample helped analyze and predict the consumer patterns of a larger audience. In question 4 (; "Do you have an E-commerce (online shopping) account which requires a password? (Select as many as fit)"all the respondents had an **active online presence** with a majority of them being independent in managing and creating their accounts. This response validates the convenience of e-commerce sites making it a very accessible platform for all users. **The technology acceptance model** in context to online shopping explains **increased efficiency in terms of time management as well as spending**. The **perceived usefulness** influences a positive attitude and behavioral intent towards online shopping. Similarly in

[1] https://www.scalefast.com/blog/customer-behavior/

Question 11 (How often do you online shop?) explains the frequency of the consumers' online shopping due to the **technology acceptance model**. This claim is also supported by the responses in question 20 as the primary reason mentioned by the consumers was convenience.

In question 16 which asked, "Would you prefer an app/site that limits the items to only your preference compared to an app/site that shows you all its products?"

Most of the participants (47 respondents) responded with a yes which explains **howconsumer's online purchasing intentions** are influenced by a more personalized experience. This is linked to the **theory of reasoned action** which explains how the marketing strategies of online businesses aim to influence the attitude of the consumers towards the brand through strategies like a more personalized experience. This **attitude** then transforms into a habit of online buying. Additionally, the **subjective norms** explain the pressure from the marketers of the online e-commerce brand to make them buy from their site. A culmination of these attitudes and subjective norms incline towards the **behavioral intention** of online buying.

This theory is supported in questions 17, 18, 19 which inquire the respondents regarding their consumer loyalty to online shopping as a whole.

In question 12 "Would you mind if apps/sites had access to your personal information without your consent if it was used to improve your user experience?" there was almost an equal distribution between the responses yes and no which explained that the intention of the consumers to shop in a more personalized environment had been influenced by the marketing strategies. However not all the respondents were entirely convinced and responded with a no as well. Secondly, all participants are not aware of the kind of personal information that is usually tracked, they are usually aware of **first-party tracking** which includes all the data that users enter via forms, for example, email address and credit card information. First-party tracking happens by the website the user chooses to visit. Whereas, **third-party tracking**, on the other hand, is that done by sites that a user doesn't visit. This is done by dropping a cookie onto the user's device. These cookies are commonly used for advertising purposes. The issue with third party tracking is that users usually don't realize their online activity is being tracked. This can be inferred from the question "Who owns and can use the data about your behavior online, such as your contacts or your locations?" where the majority of the participants responded with "its mine, no one should use it" responses completely unaware of third party tracking.

Therefore data-driven analysis of tracking consumer patterns is now opening up to a broader array of businesses looking at connecting the dots from data that stream from advertising results, sales data, production data, and even social media.

Markets therefore understand and analyze what consumers respond on social media to get an overall understanding of how media consumption drives both online and offline purchases

Therefore, through a detailed analysis of the results, it is clear that most of the participants had an active online presence however didn't have complete knowledge regarding the tracking of their digital footprints. Furthermore, due to this lack of understanding, they also claimed that they enjoyed a more personalized and convenient shopping experience which can only be achieved through tracking their online activities.

CONCLUSION

Social media and any sort of online behavior have a great effect on a consumer's intention to purchase a product since the marketers are responsible for influencing their purchasing intentions. The technology acceptance model explains The perceived usefulness influences a positive attitude and behavioral intent towards online shopping. The theory of reasoned action which explains how the marketing strategies of online businesses aim to influence the attitude of the consumers towards the brand through strategies like a more personalized experience through the first party as well as third party tracking. This is validated in question 16 where consumers have mentioned an appreciation towards a more personalized shopping experience which is a result of collecting the consumer's digital footprints. Hence from all the data collected the null hypothesis is disapproved and the alternative hypothesis is approved.

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