



# Navigating the Privacy Paradox: Understanding Privacy Behaviour of Generation Z in Pakistan's E-commerce Landscape

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## Abstract

The proliferation of technology has made it easy for people to shop online using multiple platforms. Despite vulnerabilities related to privacy during online shopping, people still shop online which raises concern about inconsistency in their attitude towards privacy also known as the "Privacy paradox". Drawing upon the theoretical perspectives of privacy calculus theory, Technology Acceptance Model (TAM) and privacy protection motivation, this study aims to analyse the privacy concerns among Generation Z in Pakistan and explore the privacy paradox they depict. The purposive sampling is used to collect data for this cross-sectional study from 720 university students in the generation Z age group studying in six universities in Punjab. The main inclusion criteria are choosing students who often shop online and are in the age bracket of 18-28. Findings showed that the more privacy concerns a person has the more careful he would be while doing online shopping. The relationship between privacy literacy and online shopping is a negative correlation which means that more the privacy literate a person is; the fewer online purchases they will make. This research stresses that people need to be more vigilant while sharing their information on online ecosystems. The findings of this study expand the theoretical understanding of the privacy paradox establishing two very opposite and non-aligned attitudes of shoppers. It also offers an opportunity for sales managers in the fashion industry to look at their digital models to reconsider privacy standards and also helps them investigate the dichotomy of behaviour.

**Keywords:** Privacy paradox; Generation Z; Online shopping; Cookies; Sponsored ads, University students

pandemic, which catalysed significant shifts in consumer behaviour, particularly in how individuals shop and navigate privacy considerations [2]. Despite the passage of three years since the peak of the pandemic, online shopping continues to surge, underscoring a persistent preference for digital commerce. However, this trend has given rise to a new form of e-commerce characterized by consumer apprehensions surrounding privacy [3]. This study seeks to explore this dichotomy in young consumers by surveying 720 shoppers studying at six Pakistani universities.

In recent years, the internet has become a battleground for privacy, with platforms such as social media (e.g., Instagram, Facebook, Twitter) and online shopping websites at the forefront of privacy concerns [4]. Researchers have sounded alarms over individuals unwittingly sharing personal information, which can be exploited by various entities, including service providers, government agencies, and other organizations, without their explicit consent [5].

In Pakistan, a country experiencing rapid digitalization and a growing e-commerce sector, understanding the nature of Generation Z's attitudes towards privacy in online shopping is of paramount importance. Despite cultural and socioeconomic differences, Pakistani Gen Zers are part of a global generation shaped by internet access and social media connectivity. Thus, their experiences and concerns regarding online privacy are influenced by both local dynamics and broader global trends.

This study seeks to analyse the intricate relationship between privacy concerns and online shopping behaviour among Generation Z in Pakistan. By analysing the factors driving privacy perceptions, the impact of cultural and societal norms, and the role of technological advancements, this research aims to provide valuable insights into the Privacy Paradox phenomenon within the Pakistani context. Through quantitative surveys, this study aims to uncover the underlying motivations and decision-making processes driving Gen Z's engagement with online shopping platforms and their corresponding privacy concerns. Furthermore, by focusing specifically on Generation Z in Pakistan, this research aims to fill a crucial gap in the existing literature, which often overlooks the unique socio-cultural

## Introduction

In the contemporary era, marked by rapid technological advancements, Generation Z is notably more engaged with privacy concerns than any other generation [1]. This heightened awareness has only intensified with the onset of the COVID-19

factors shaping online behaviour in this region. By shedding light on the privacy attitudes and behaviours of Pakistani Gen Zers, this study not only contributes to academic discourse but also offers practical implications for policymakers, businesses, and online platforms seeking to navigate the delicate balance between consumer privacy and digital commerce in Pakistan's evolving digital landscape.

The research problem addressed revolves around the intricate digital dilemmas faced by Generation Z individuals in Pakistan within the growing e-commerce landscape. Specifically, the study is connected with the calculation of the ratio of risk and benefits (privacy calculus), where people weigh their decisions on the expected benefit over risk consequences. Sometimes these decisions are without any cognitive measure and are driven by data sets made of their private information combined with an algorithm used for business purposes [6,7].

So the main research question this study tried to answer is: Considering the privacy paradox, how do Generation Z individuals in Pakistan navigate their privacy concerns while engaging in e-commerce?

## Materials and Methods

The increase of online shopping platforms has revolutionized the retail landscape, offering convenience and accessibility to consumers worldwide. However, this digital transformation has also possibly brought to the forefront a complex interplay between privacy concerns and consumer behaviour, particularly among Generation Z individuals in Pakistan. This demographic cohort, born between the mid-1990's and early 2010's, has grown up in an era dominated by technology and social media, making them both avid users of online shopping platforms and acutely aware of privacy issues.

The evolution of the internet from a communication tool to a pivotal e-commerce platform has reshaped consumer practices [8]. As online shopping has become increasingly prevalent, consumers are frequently required to share personal data, leading to significant privacy concerns [9]. Statista reports an upward trend in global internet users and e-commerce sales, reflecting the growing dominance of digital platforms with 5.45 billion people online. In Pakistan, this trend is mirrored by a rising acceptance of online shopping due to its convenience and time-saving benefits.

Despite this shift, privacy concerns remain paramount. The manner in which consumer data is collected, stored, and used post-transaction has become a focal point of privacy debates. Previous studies suggest that privacy concerns are often deprioritized in favor of convenience, revealing a privacy paradox where users' actions contradict their stated privacy concerns. This paradox is especially pertinent for Generation Z in Pakistan, who must navigate the tension between their enthusiasm for digital platforms and their apprehension about data privacy.

## What is privacy paradox?

The privacy paradox refers to the inconsistency between individuals' concerns about their privacy and their willingness to disclose personal information online. Despite expressing concerns, individuals often engage in behaviours that compromise their privacy, especially in the context of e-commerce transactions. Brown's series of in-depth interviews revealed a contradiction in people's behaviour regarding privacy concerns. Wu et al. suggest that privacy-related issues are among the pressing concerns of our times. A central puzzle identified is the privacy paradox, where individuals exhibit concerns for their privacy but often behave in ways that seem contradictory. Despite extensive theoretical and empirical exploration, there remains no definitive explanation for this phenomenon.

Over the past decade, researchers have attempted to understand why individuals express a desire for data protection yet willingly disclose personal information on social networks and e-commerce platforms. Studies indicate that despite concerns, individuals continue to engage in e-commerce activities. The privacy paradox has significant implications for e-commerce, e-government, and social networking. Many individuals do not fully comprehend how service providers gather and utilize their personal data, highlighting a lack of privacy literacy.

## Privacy concerns in e-commerce

Privacy concerns are integral to the success and sustainability of e-commerce platforms. Research by Malhotra et al., highlights that privacy concerns significantly influence consumers' trust and willingness to disclose personal information during online transactions. Factors such as perceived risks, control over personal data, and transparency of data practices shape consumers' privacy perceptions. The concept of the privacy paradox encapsulates the seemingly contradictory behavior observed in individuals who express concerns about privacy online but continue to engage in behaviors that compromise their privacy. This phenomenon is particularly relevant in the context of online shopping, where consumers willingly share personal information to facilitate transactions for some incentive, while simultaneously expressing apprehension about data security and privacy breaches.

A significant aspect of this privacy breach pertains to sponsored ads, which have emerged as a pervasive marketing tool. Tailored to individual preferences based on users' browsing histories, these ads infiltrate various online platforms, such as social media and search engines. For example, a user searching for clothing brands on Instagram may encounter corresponding sponsored ads across different platforms, leading to highly targeted marketing efforts. This study delves into the quantitative analysis of Generation Z's behaviour towards privacy in online shopping, while also probing the existence of the privacy paradox in this context.

## Generation Z online behavior and privacy threats

Generation Z, born between the mid-1995's and early 2014's, represents a demographic cohort that has grown up in the digital age. They are characterized by their digital fluency, reliance on social media, and preference for personalized experiences. Studies have shown that Generation Z exhibits unique online behaviours, such as frequent use of social media for product research and peer recommendations.

Literacy, traditionally defined as the ability to read and write, has expanded in the digital age to encompass computer and cyber literacy. In the realm of privacy literacy, defined as understanding how personal data is collected and used in digital spaces, users face increasing challenges with the proliferation of e-commerce and data-tracking technologies. Generation Z, often unaware of these complexities, may unwittingly expose themselves to privacy breaches. Despite these risks, some in Generation Z express indifference toward privacy concerns, citing either their adoption of protective measures or normalisation of digital sharing. Others remain unaware of the secondary use of their data by marketers and websites, contributing to consumer mistrust. This lack of awareness has led to growing concerns, even in countries like Pakistan where privacy literacy remains underexplored.

Research indicates that individuals prioritize privacy differently depending on the context, showing more concern over financial and medical data than shopping or media habits. The literature on privacy literacy in Pakistan is sparse, highlighting the need for further research to understand Generation Z's awareness and behaviours regarding online shopping security. This study aims to explore the privacy paradox among Generation Z and assess their levels of privacy literacy. Existing research often focuses on privacy intentions rather than actual behaviours, neglecting the critical role of privacy literacy.

## Cultural context: Privacy in Pakistan

Privacy perceptions are influenced by cultural factors, and this holds true for Pakistan. In a study by Imtiaz et al., cultural values such as collectivism and social harmony were found to shape individuals' attitudes towards privacy in Pakistan. Despite concerns about privacy breaches, cultural norms emphasizing social relationships may influence Generation Z's willingness to share personal information online.

Limited research specifically addresses the privacy concerns of Generation Z in Pakistan's e-commerce landscape. However, anecdotal evidence suggests that Pakistani youth and analysts are increasingly conscious of privacy issues, particularly in the wake of data breaches and cybersecurity threats. Understanding the specific concerns and behaviors of this demographic is crucial for e-commerce businesses operating in Pakistan.

Current research predominantly addresses the privacy paradox in the context of social networking sites rather than e-commerce. This gap is particularly relevant for Pakistani Generation Z, whose online shopping behaviors are influenced by both global digital trends and local cultural factors. This study

aims to fill this gap by exploring the privacy paradox among Pakistani university students and assessing their privacy literacy in relation to online shopping as very little literature is available on online shopping and privacy concerns in Pakistan's context s.

Based on the reviewed literature, the following hypotheses are proposed:

**H<sub>1</sub>:** Students with higher levels of privacy concerns are more likely to engage in cautious online shopping behaviours.

**H<sub>2</sub>:** As the perceived benefits of online shopping increase, students with significant privacy concerns are more likely to disclose their personal information.

**H<sub>3</sub>:** Students with greater privacy literacy are less inclined to make online purchases frequently.

## Theoretical frameworks

This study seeks to provide a nuanced understanding of the privacy paradox among Generation Z in Pakistan's e-commerce landscape, which can best be understood through three theoretical concepts of privacy calculus theory, technology acceptance model and privacy protection theory.

## Privacy calculus theory

The privacy calculus theory provides a valuable framework for understanding individuals' decision-making regarding privacy disclosures. According to this theory, individuals weigh the benefits of disclosing personal information against perceived risks. Applying this framework to Generation Z in Pakistan can elucidate the factors driving their privacy concerns and behaviours in the e-commerce context.

## Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), proposed by Davis in 1986, is a widely recognized theoretical framework for understanding users' acceptance and adoption of technology. TAM posits that Perceived Ease of Use (PEOU) and Perceived Usefulness (PU) significantly influence individuals' attitudes towards using technology, which in turn determines their behavioural intention to use it.

In the context of our study, TAM serves as a valuable lens for examining Generation Z's attitudes and behaviours towards e-commerce platforms in Pakistan. Perceived ease of use reflects the extent to which Generation Z perceives e-commerce platforms as user-friendly and convenient for making online transactions. Understanding these perceptions can shed light on Generation Z's acceptance of e-commerce technology and their willingness to engage in online shopping activities despite privacy concerns.

## Privacy Protection Motivation Theory (PPMT)

The Privacy Protection Motivation Theory (PPMT), developed by Smith et al. in 1996, focuses on individuals' motivations to protect their privacy in the face of perceived threats or risks to their personal information. PPMT posits that individuals are motivated to engage in privacy-protective behaviours when they

perceive a threat to their privacy and possess the efficacy to implement privacy protection measures.

In our research context, PPMT offers insights into Generation Z's motivations and intentions to safeguard their privacy while engaging in e-commerce activities. Privacy concerns may arise from various factors, including data breaches, unauthorized access to personal information, and lack of transparency in data handling practices by e-commerce platforms. PPMT helps us understand how Generation Z's perceptions of privacy risks and their confidence in their ability to protect their privacy influence their adoption of privacy-enhancing behaviours, such as adjusting privacy settings, using secure payment methods, or limiting personal information disclosure online. By integrating PPMT into our theoretical framework, we can explore the interplay between Generation Z's privacy concerns, motivations to protect their privacy, and their behaviours within Pakistan's e-commerce landscape, thereby providing valuable insights for addressing the privacy paradox phenomenon.

## Research design

This study employed a cross-sectional research design to explore the privacy concerns of Generation Z within Pakistan's e-commerce landscape. The cross-sectional approach facilitated the collection of data at a single point in time, providing a snapshot of participants' perspectives on privacy concerns.

## Sampling

Purposive sampling was used to select 750 participants who met specific criteria: Being Generation Z individuals enrolled in undergraduate or postgraduate programs at seven universities across Pakistan. These universities were chosen to represent diverse geographical regions and academic disciplines. The inclusion criteria required participants to belong to Generation Z (born between 1995 and 2014) and to actively engage in e-commerce activities.

The final response size was 720 as some questionnaires were not filled properly. The final sample has 371 male and 349 female university students from National University of Computer and Emerging Sciences, Information Technology University (ITU), University of the Punjab, University of Veterinary and Animal Sciences, University of Central Punjab and University of Education, comprising both private and public institutions. Participants were aged between 18 and 28 years.

## Procedure

Data collection occurred through the distribution of structured questionnaires to the selected participants. Prior to administering the survey, ethical approval was obtained from the relevant institutional review board. The questionnaires were distributed electronically *via* email and online survey platforms, ensuring ease of access and timely responses.

The questionnaire utilized in this study was developed based on a comprehensive review of existing literature on privacy concerns in e-commerce, particularly focusing on Generation Z. The instrument consisted of validated scales and items adapted

to the Pakistani context, measuring various dimensions of privacy concerns, e-commerce behaviour, and demographic information.

## Data analysis

Quantitative data obtained from the surveys were analysed using statistical software (e.g., SPSS, R). Descriptive statistics such as frequencies, means, and standard deviations were computed to summarize participants' responses. Inferential statistical techniques, including regression analysis, were employed to examine relationships between variables and test hypotheses.

## Ethical considerations and limitations

Ethical guidelines were strictly adhered to throughout the research process. Informed consent was obtained from all participants prior to their participation in the study. Confidentiality and anonymity of participants were ensured by assigning unique identifiers to each respondent and aggregating data for analysis purposes.

While efforts were made to obtain a diverse sample from multiple universities, the findings of this study may not be generalizable to the entire population of Generation Z individuals in Pakistan. Additionally, self-report measures used in the survey may be subject to response bias.

Research methodologies such as surveys, interviews, and focus groups can be employed to investigate the privacy concerns of Generation Z in Pakistan. These methods allow for the exploration of nuanced perspectives and experiences related to privacy in e-commerce transactions. Additionally, experimental designs can provide insights into how different interventions or privacy-enhancing measures influence Generation Z's behaviour.

## Findings

Despite growing awareness of privacy issues, there is a dearth of empirical research on the privacy concerns of Generation Z in Pakistan's e-commerce landscape. Future studies should aim to address this gap by employing rigorous methodologies to examine the factors influencing privacy perceptions and behaviours among Pakistani youth. Moreover, comparative research across different demographic groups and cultural contexts can deepen our understanding of privacy dynamics in e-commerce.

The data collected through survey questionnaire. The findings of the survey are calculated using SPSS, presented in tables and detail description is also given.

**Education:** In this research, the participants are from undergraduate and postgraduate programs. The results obtained show that out of 720 total participants, 414 participants are from the postgraduate program this makes 57.5% of them and 306 participants are from the undergraduate program and makes 42.3%. The results are in accordance with the Table 1.



**Table 1:** Education.

| Education of the participants |               |           |         |               |                    |
|-------------------------------|---------------|-----------|---------|---------------|--------------------|
|                               |               | Frequency | Percent | Valid percent | Cumulative percent |
| Valid                         | Undergraduate | 306       | 42.3    | 42.3          | 42.3               |
|                               | Postgraduate  | 414       | 57.7    | 57.7          | 100                |
|                               | Total         | 720       | 100     | 100           |                    |

About 30.1% selected strongly agree which means that they prefer the online payment method over COD and 43.4% that makes 314 respondents agreed while 6.1% were neutral, 15.1 disagreed and 5.1% strongly disagreed with the statement which means that they prefer COD while the majority is with online payment method. Most of the respondents (314/720) agreed

that they prefer online payment method making the highest percentage of 43.4% and only 5.1% prefer COD. For more convenience observe the Table 2.

**Table 2:** Online payment.

| I prefer online payment system over Cash on Delivery (COD) |                   |           |         |               |                    |
|------------------------------------------------------------|-------------------|-----------|---------|---------------|--------------------|
|                                                            |                   | Frequency | Percent | Valid percent | Cumulative percent |
| Valid                                                      | Strongly agree    | 221       | 30.1    | 30.1          | 30.1               |
|                                                            | Agree             | 314       | 43.4    | 43.4          | 73.6               |
|                                                            | Neutral           | 43        | 6.1     | 6.1           | 79.7               |
|                                                            | Disagree          | 106       | 15.1    | 15.1          | 94.9               |
|                                                            | Strongly disagree | 36        | 5.1     | 5.1           | 100                |
|                                                            | Total             | 720       | 100     | 100           |                    |

It shows that nearly 51.4% of people say that they consider online shopping more beneficial that is why they do and they strongly agree with the statement while 35.3% agree, 8.4% neutral responses, 3.7% disagreed and 1.1% strongly disagreed with the statement. This clearly shows that people strongly

agree with the statement and accept the statement that they do online shopping because it is more beneficial to them (Table 3).

**Table 3:** Online shopping benefit.

| I do online shopping because it is more beneficial |                   |           |         |               |                    |
|----------------------------------------------------|-------------------|-----------|---------|---------------|--------------------|
|                                                    |                   | Frequency | Percent | Valid percent | Cumulative percent |
| Valid                                              | Strongly agree    | 370       | 51.4    | 51.4          | 51.4               |
|                                                    | Agree             | 257       | 35.3    | 35.3          | 86.7               |
|                                                    | Neutral           | 59        | 8.4     | 8.4           | 95.1               |
|                                                    | Disagree          | 26        | 3.7     | 3.7           | 98.9               |
|                                                    | Strongly disagree | 8         | 1.1     | 1.1           | 100                |
|                                                    | Total             | 720       | 100     | 100           |                    |

The total of 700 participants who have participated in the research 30.1% strongly agree, 51.9% agree, 7.9% neutral, 7.6% disagree and 2.6% strongly disagree. This shows that 51.9% people have knowledge that the transaction history can be tracked without the consent of the users and 30.1% strongly

agrees with the statement while only 2.6% and 7.6% strongly disagreed and disagreed with the statement respectively (Table 4).

**Table 4:** Transaction history tracking.

| I know that transaction history can be tracked without user's consent |                   |           |         |               |                    |
|-----------------------------------------------------------------------|-------------------|-----------|---------|---------------|--------------------|
|                                                                       |                   | Frequency | Percent | Valid percent | Cumulative percent |
| Valid                                                                 | Strongly agree    | 221       | 30.1    | 30.1          | 30.1               |
|                                                                       | Agree             | 373       | 51.9    | 51.9          | 82                 |
|                                                                       | Neutral           | 55        | 7.9     | 7.9           | 89.9               |
|                                                                       | Disagree          | 53        | 7.6     | 7.6           | 97.4               |
|                                                                       | Strongly disagree | 18        | 2.6     | 2.6           | 100                |
|                                                                       | Total             | 720       | 100     | 100           |                    |

Out of 720 respondents 408 haven't faced a situation in which their credit card and bank details were used by someone else while 312 respondents have faced such a situation. So we can say that the situation in which personal credit card and bank

details were leaked is at alarming levels as 43.1% have faced such mishaps (Table 5).

**Table 5:** Privacy breach.

| I have faced a situation in which my credit card and bank details were used by someone else |       |           |         |               |                    |
|---------------------------------------------------------------------------------------------|-------|-----------|---------|---------------|--------------------|
|                                                                                             |       | Frequency | Percent | Valid percent | Cumulative percent |
| Valid                                                                                       |       |           |         |               |                    |
|                                                                                             | Yes   | 312       | 43.1    | 43.1          | 43.1               |
|                                                                                             | No    | 408       | 56.9    | 56.9          | 100                |
|                                                                                             | Total | 720       | 100     | 100           |                    |

To the statement related to sponsored ads as evidence of privacy breach 18.6% have chosen strongly agree, 66.7% have chosen agree, 7.4% are neutral, 5.7% disagree and 1.6% are of strongly disagree. The highest per cent is 66.7% of the 477 respondents who have agreed to the statement and they

consider sponsored ads relevant to their search as evidence of privacy breach (Table 6).

**Table 6:** Sponsored ads and privacy breach.

| I believe sponsored ads are clear evidence of privacy breach |                |           |         |               |                    |
|--------------------------------------------------------------|----------------|-----------|---------|---------------|--------------------|
|                                                              |                | Frequency | Percent | Valid percent | Cumulative percent |
| Valid                                                        |                |           |         |               |                    |
|                                                              | Strongly agree | 140       | 18.6    | 18.6          | 18.6               |
|                                                              | Agree          | 477       | 66.7    | 66.7          | 85.3               |
|                                                              | Neutral        | 52        | 7.4     | 7.4           | 92.7               |
|                                                              | Disagree       | 40        | 5.7     | 5.7           | 98.4               |

|  |                   |     |     |     |     |
|--|-------------------|-----|-----|-----|-----|
|  | Strongly disagree | 11  | 1.6 | 1.6 | 100 |
|  | Total             | 720 | 100 | 100 |     |

In response to the above-mentioned questions 18% of respondents strongly agreed, 59.6% agreed, 6.6% neutral, 7.4% disagreed and strongly disagreed is chosen by 8.4%. This depicts

that mostly participants 417 (59.6%) agreed that they can get more discounts and vouchers (benefits) that's is why they disclose their personal data (Table 7).

**Table 7:** Disclosure benefit.

| I disclose my personal information as it helps me get more discounts and vouchers. |                   |           |         |               |                    |
|------------------------------------------------------------------------------------|-------------------|-----------|---------|---------------|--------------------|
| Valid                                                                              |                   | Frequency | Percent | Valid percent | Cumulative percent |
|                                                                                    | Strongly agree    | 136       | 18      | 18            | 18                 |
|                                                                                    | Agree             | 427       | 59.6    | 59.6          | 77.6               |
|                                                                                    | Neutral           | 46        | 6.6     | 6.6           | 84.1               |
|                                                                                    | Disagree          | 52        | 7.4     | 7.4           | 91.6               |
|                                                                                    | Strongly disagree | 59        | 8.4     | 8.4           | 100                |
|                                                                                    | Total             | 720       | 100     | 100           |                    |

About 59 out of the total 720 participants strongly agreed that they read the privacy policy before shopping online, 202 (27.4%) agreed, 26 participants (3.7%), 206 participants (29.4%) disagreed and 227 participants (32.4%) strongly disagreed. So, most

of people don't read the privacy policy before online shopping as 227 (32.4%) strongly disagreed with the statement (Table 8).

**Table 8:** Privacy policy.

| I always read the privacy policy before shopping online. |                   |           |         |               |                    |
|----------------------------------------------------------|-------------------|-----------|---------|---------------|--------------------|
| Valid                                                    |                   | Frequency | Percent | Valid percent | Cumulative percent |
|                                                          | Strongly agree    | 59        | 7       | 7             | 7                  |
|                                                          | Agree             | 202       | 27.4    | 27.4          | 34.4               |
|                                                          | Neutral           | 26        | 3.7     | 3.7           | 38.1               |
|                                                          | Disagree          | 206       | 29.4    | 29.4          | 67.6               |
|                                                          | Strongly disagree | 227       | 32.4    | 32.4          | 100                |
|                                                          | Total             | 700       | 100     | 100           |                    |

## Hypothesis tests interpretation

**Hypothesis 1:** The first hypothesis to be tested is as follows:

**H<sub>1</sub>: Students with more privacy concerns are more careful while online shopping.** In this hypothesis the relationship between privacy concerns and Online shopping is observed. The indicators for measuring Privacy concerns involve the fear of

being tracked, Misuse of information, tracking of transaction history and also by the sponsored ads displayed to people related to their search history (Table 9).

**Table 9:** Correlations relationship between privacy concerns and online shopping.

|                  |                         | Online shopping | Privacy concerns |
|------------------|-------------------------|-----------------|------------------|
| Online shopping  | Correlation coefficient | 1               | .280**           |
|                  | Sig. (2-tailed)         | .               | 0                |
|                  | N                       | 700             | 700              |
| Privacy concerns | Correlation coefficient | .280**          | 1                |
|                  | Sig. (2-tailed)         | 0               | .                |
|                  | N                       | 700             | 700              |

**Note:** \*\*Correlation is significant at the 0.01 level (2-tailed).

The relationship that existed between the 2 variables *i.e.*, privacy concerns and online shopping is measured using the software SPSS and the test applied is Spearman's rho correlation coefficient. The Table shows the positive correlation between the selected variables as discussed in the hypothesis 1 the r value is 0.280, p value is 0.000 whereas N=700.

The results of hypothesis 1 obtained through this test shows that the relationship between the two variable privacy concerns and online shopping is positive correlation which is clear depiction that more the privacy concerns in a person the more they will be careful while online shopping. This proves the Hypothesis that 'People having more privacy concerns are more careful while online shopping'.

**Hypothesis 2:** To understand the relation between privacy concerns and privacy paradox. The hypothesis is as follows:

**H<sub>2</sub>: The more benefits are offered; the more students disclose their personal information despite having massive privacy concerns.** In order to measure the relation between Privacy concerns and Privacy paradox the Spearman's Correlation was utilized and the results are as shown in table. The relationship between privacy paradox and privacy concerns (Table 10).

**Table 10:** Correlations between privacy paradox and privacy concerns.

|                |                  |                         | Privacy paradox | Privacy concerns |
|----------------|------------------|-------------------------|-----------------|------------------|
| Spearman's rho | Privacy paradox  | Correlation coefficient | 1000            | .571**           |
|                |                  | Sig. (2-tailed)         | .               | 0                |
|                |                  | N                       | 700             | 700              |
|                | Privacy concerns | Correlation coefficient | .571**          | 1000             |
|                |                  | Sig. (2-tailed)         | 0               | .                |
|                |                  | N                       | 700             | 700              |

**Note:** \*\*Correlation is significant at the 0.01 level (2-tailed).

The correlation coefficient obtained by measuring the relationship between privacy paradox and privacy concerns is done using Spearman's rho correlation coefficient. The table shows that the relation is a positive correlation between the two said variables as discussed above. The r value is 0.571, the p value is 0.000 and the N=700 N stands for the number of participants. The r value between .40 and 0.70 is considered moderate.

The results researcher obtained show there are more chances that people are more likely to disclose their personal data to the platform if they are offered with more benefits. In other words,

the privacy paradox is linked with the benefits people are getting so despite having privacy concerns people are shopping online in order to get the benefits offered. The positive correlation that exists proves the Hypothesis that 'The more benefits are offered; the more People disclose their personal information despite having massive privacy concerns'.

**Hypothesis 3:** Here, the test is to measure the relationship between privacy literacy and online shopping.

**H<sub>3</sub>: Students having more privacy literacy make less purchases online.** In order to measure the relationship between Privacy literacy and Online purchases the test applied is



Spearman's correlation using SPSS. The test was done to measure the relationship between the variables privacy literacy and privacy paradox. The table shows the results obtained after

applying the relevant test. The relationship between online shopping and privacy literacy (Table 11).

**Table 11:** Correlations.

|                                                                         |                  |                         | Online shopping | Privacy literacy |
|-------------------------------------------------------------------------|------------------|-------------------------|-----------------|------------------|
| Spearman's rho                                                          | Online shopping  | Correlation coefficient | 1               | -.229**          |
|                                                                         |                  | Sig. (2-tailed)         | .               | 0                |
|                                                                         |                  | N                       | 700             | 700              |
|                                                                         | Privacy literacy | Correlation coefficient | -.229**         | 1                |
|                                                                         |                  | Sig. (2-tailed)         | 0               | .                |
|                                                                         |                  | N                       | 700             | 700              |
| <b>Note:</b> **Correlation is significant at the 0.01 level (2-tailed). |                  |                         |                 |                  |

The results according to the table shows that the relation between the variables privacy literacy and privacy paradox is negative correlation. The results obtained by applying the Spearman's rho correlation coefficient. The  $r$  value is  $-.229$ , while  $p$ -value is  $.000$  and  $N=700$ . The negative correlation shows that the increase in value of one variable is resulting in the decrease of the second variable.

The results reveal an interesting fact that people have more knowledge related to the Privacy issue they can face in the future try to limit their online shopping. Hence it is proven that the Hypothesis 'People having more privacy literacy make fewer purchases online' is correct as an increase in one variable (privacy literacy) results in a decrease of the other (online shopping).

## Results and Discussion

This study looks into the intricate landscape of privacy behaviours among Generation Z in Pakistan's e-commerce sector, shedding light on a phenomenon known as the privacy paradox. The findings reveal compelling insights into how individuals navigate privacy concerns amidst their online shopping activities. Despite its limitations, this research contributes significantly to the understanding of privacy-related behaviours in various domains.

The study identifies a distinct pattern among individuals who exhibit heightened privacy concerns and literacy regarding data breaches. These individuals tend to be more cautious when disclosing personal information, preferring to interact with credible platforms that prioritize data security. This finding underscores the critical link between privacy concerns, literacy, and online shopping behaviours, aligning with previous research.

Interestingly, the research uncovers a paradoxical behaviour where individuals, despite harbouring significant privacy concerns, are willing to disclose personal data in exchange for perceived benefits offered by e-commerce platforms. This inclination suggests that individuals often weigh the benefits

against potential risks, prioritizing immediate gains over long-term privacy protection. Moving forward, the study proposes expanding its methodological approach beyond quantitative surveys. Incorporating qualitative methods such as focus groups and in-depth interviews with privacy experts, social media analysts, and media professionals could provide deeper insights into the underlying motivations behind privacy paradox behaviours.

Furthermore, the research advocates for experimental studies to observe actual online shopping behaviours when individuals are presented with varying levels of discounts and benefits. Such experiments could elucidate whether individuals' behaviours align with their stated privacy concerns or diverge in favour of immediate incentives, thereby bridging the gap between stated preferences and actual behaviours.

The findings of this research underscore the complex interplay between privacy concerns and online shopping behaviours among Generation Z in Pakistan, aligning closely with the privacy calculus theory. The significant preference for online payment methods, as highlighted by the 30.1% of participants who strongly agree with its benefits, reflects a cost-benefit analysis where convenience outweighs perceived risks. This observation aligns with the tenets of privacy calculus, suggesting that despite concerns over data breaches, evidenced by 43.1% of participants having faced situations where their financial information was compromised, respondents are inclined to engage in online shopping when they perceive sufficient benefits, such as discounts and convenience. The positive correlation identified between privacy concerns and cautious online shopping behaviour reinforces this theory, indicating that while privacy concerns exist, they do not entirely deter individuals from online transactions when perceived benefits are significant.

Additionally, the insights gathered from the Privacy Protection Motivation Theory (PPMT) are pertinent to understanding how Generation Z's motivations influence their online shopping habits. The negative correlation between privacy literacy and online shopping frequency suggests that increased awareness of

privacy issues leads to more cautious purchasing behaviour, as indicated by the results showing that 32.4% of respondents do not read privacy policies. This aligns with PPMT's assertion that individuals who perceive a higher threat to their privacy will engage in protective behaviours, which may include limiting online purchases. Consequently, the findings reveal that while some individuals disclose personal information for perceived benefits, others exhibit caution driven by privacy literacy, illustrating the complex relationship between privacy concerns, motivations for protection, and engagement in e-commerce activities. This duality elucidates the privacy paradox, whereby individuals navigate the benefits of online shopping against their privacy concerns, ultimately shaping their behaviours within the digital marketplace.

In light of the study's scope, which primarily focuses on Generation Z university students in Lahore, Pakistan, future research should aim to broaden its demographic scope. Including diverse age groups such as housewives and individuals from different socio-economic backgrounds would provide a more comprehensive understanding of how various demographics perceive and manage privacy concerns in the evolving e-commerce landscape. As the privacy paradox remains a complex and evolving phenomenon, it is imperative to conduct further research using more diverse methodologies and larger sample sizes. A longitudinal approach could capture changes in privacy behaviours over time, offering insights into the dynamic nature of privacy concerns in response to technological advancements and societal shifts.

## Conclusion

In conclusion, while this study enriches our understanding of privacy behaviours among Generation Z in Pakistan's e-commerce sector, it calls for continued exploration and refinement of methodologies to unravel the complexities inherent in the privacy paradox. By doing so, researchers can contribute to more informed policies and practices that uphold privacy rights while fostering consumer trust in digital environments. Navigating the privacy paradox among Generation Z in Pakistan's e-commerce landscape requires a nuanced understanding of cultural, demographic, and behavioural factors. By leveraging theoretical frameworks and robust methodologies, researchers can elucidate the complexities of privacy concerns and inform strategies for enhancing privacy protection in online transactions. Above findings also highlight the complex relationship between privacy

concerns and online shopping behaviours among Generation Z in Pakistan, aligning with the privacy calculus theory and privacy protection motivation theory. Despite significant privacy concerns, evidenced by 43.1% of participants having experienced data breaches, many respondents prioritize the benefits of online shopping, such as convenience and discounts, as reflected in the strong preference for online payment methods. Conversely, the negative correlation between privacy literacy and shopping frequency indicates that greater awareness of privacy issues can lead to more cautious purchasing behaviours. This dynamic illustrates the privacy paradox, where individuals navigate the balance between the benefits of online transactions and their privacy concerns, ultimately shaping their engagement in e-commerce activities.

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