Data Governance for Digital Trust

Final Report

This report was prepared for the
Australian Retailers Association

This report was prepared by
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**Note**

This report is not for external publication without approval from the Australian Retailers Association. This report is a deliverable under the terms of the QUT Services Agreement with the Australian Retailers Association, which sought to understand *Data Governance for Digital Trust* and is supported by interviews with 42 consumers and 20 retailers.

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Executive Summary

COVID-19 has changed the retail industry, driving digital transformation. With a greater online presence, there is an ever-increasing amount of data available, which retailers need to leverage to benefit their business. However, to be able to use the data to benefit the business, there is a need for consumers to be able to trust sharing their digital data with retailers. This also raises the significance of retailers being able to manage their data collection, gathering, storage and retention, as well as the analysis of digital data and data governance. Data governance has been recognised as a new organisational capability (Ladley, 2019), and it is the same for retailers. In response to this need for developing the new organisational capability, this report highlights the factors that motivate consumers to share digital data with retailers and the indicators of trust, assesses the readiness of retailers for digital transformation and discerns sustainable data governance practices for retailers. The questions were answered by conducting interviews with 42 consumers and 20 retailers. Overall, it is clear that consumers’ trust in a business is the holy grail for retailer success. The research also found that with a greater digital presence and the need to maintain digital data, there is also the need for retailers to embrace data governance and make it a part of their organisational culture.

24 Key Insights

1. Easy access to information is cited as a popular use of digital data.
2. A breach of privacy was the major risk observed by consumers in sharing digital data.
3. Consumers in the 18–30 age group were the most comfortable while consumers who are 50+ were the least comfortable with sharing digital data when compared to other age groups.
4. Consumers aged 18–30 are more comfortable with adapting to new technologies compared to the other two age groups.
5. Contactless payments were the most popular technology used during the COVID-19 pandemic, while chatbots were not a preference of any of the three age groups.
6. Having trust in the organisation was essential for sharing digital data across all age groups; government regulations were another factor explaining why consumers were willing to share their digital data.
7. Having access to data and knowing why data is collected are two major motivating factors for consumers in the 18–30 age group to share their digital data.
8. Receiving tailored discounts and retailers’ ability to use data in the future were two popular motivating factors for sharing data among 30+ consumers.
9. Having a clear and easy-to-understand set of terms and conditions and system verification for identification were two popular trust indicators for female and male consumers respectively in the 18–30 age group.
10. For both female and male consumers in the 30–50 age group, the most popular indicator of trust is easy-to-use technology followed by system verification of identity and clear and easy-to-understand terms and conditions.
11. Easy-to-use technology and clear and easy-to-understand terms and conditions were the most popular indicators of trust for both genders of consumers in the 50+ age group.
12. Being transparent was the most mentioned expectation of consumers across all age groups and for both genders.
13. Regardless of the age group, consumers are happy to share digital data, with retailers using this data for analytical purposes.

14. Small and medium enterprises (SMEs) use digital data to improve consumer experiences or reach more consumers.

15. Large enterprises use digital data to gain a competitive edge, identify new products and make predictions about the future.

16. Regardless of the type of business (i.e., SMEs and large enterprises), all retailers report that ensuring the security and privacy of consumer data is the main risk associated with collecting consumer data.

17. Over half (55%) of retailers do not recognise the significance of data governance— their focus is the growth of the business.

18. Large organisations use data governance for secure use of data, compliance with industry and government standards, and an understanding of how to capture, store, and use data for business improvement.

19. None of the retailers focus on all dimensions of data governance; data storage, data security, data quality, and data reporting are the dimensions that have received the most attention to date.

20. There is a need for organisations to have a defined data strategy.

21. There is a need for organisations to define meta-data.

22. The majority of retailers have adequate technologies to collect consumer data; however, whether or not the technology is sufficient is not a concern for retailers in the SME category.

23. The majority of retailers who participated in the study conveyed that transitioning to new technologies during the COVID-19 pandemic was not a challenge.

24. Retailers identified the need to have better technologies, better data quality, better security and an integrated data governance framework to effectively use the data they collect.

**Key Recommendations**

Retailers need to embed practices that introduce transparency and hence trust in consumers:

a. Retailers should let consumers know why data is collected and how it will be used.

b. Retailers should provide consumers with tailored products.

c. Retailers should also use consumer data for the consumer’s benefit in the future.

2. Retailers should provide consumers with succinct and easy-to-understand privacy terms and conditions.

3. Retailers should use technology that identifies users to provide additional security when collecting consumer data.

4. Retailers need to upskill themselves in the area of data governance:

   a. Retailers need to understand that data is a strategic asset.

   b. Retailers need to understand all dimensions of data governance.

   c. Retailers need to build capabilities around all dimensions of data governance.

   d. Retailers should immediately tackle the issues of data storage, data quality and meta-data, among others.

5. Retailers need to inculcate a data governance culture within the organisation.
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Key Aims

The COVID-19 pandemic has upended the retail industry, forcing the closure of retail stores and causing uncertainty about the future of the in-store experience. These abrupt shifts have required retailers to effectively serve consumers through other channels (Briedis, Kronschnabl, Rodriguez, & Ungerma, 2020). The Australian Retailers Association’s CEO Paul Zahra specifically notes an acceleration of retail trends through the COVID-19 pandemic, with significant moves towards online trading, click-and-collect and contactless shopping (Australian Retailers Association, 2021). This has required consumers to adapt to new technology. Since March 2020, consumers have quickly adapted to the use of the latest technologies and sharing their personal information and data with retailers. However, historically, customers have been sensitive to providing personal data to third parties and retailers (Graeff & Harmon, 2002; Norberg, Horne, & Horne, 2007).

This brings to the fore the significance of digital trust. Digital trust is a measure of consumer confidence in an organisation’s ability to protect and secure an individual’s data as well as their privacy (Swinhoe, 2018). With almost every business today being a digital business, digital trust has become more important than ever. A breach of trust can result in harmful business consequences, such as consumer alienation, brand erosion and churn. Hence, there is a need for retailers to recognise the importance of digital trust for the company as well as the economy, making it critical for companies to act now. One of the enablers of digital trust is data governance (Gupta, 2022). Data governance is defined as the planning, oversight and control over the management and use of data (Mosley, Brackett, Earley, & Henderson, 2010).

With digital transformation becoming prevalent in the retail industry, data governance has become more critical than ever (Rushin, 2022). This is particularly because retailers need to use digital data as a strategic asset to better support their growth and meet consumers’ needs. The significance of digital data has shifted dramatically with its ability to make the customer journey seamless (Caversan, 2021); however, this needs to be done in a secure manner. To this end, the current study is exploratory in nature and aims to answer the following research questions:

1. What are the factors that motivate consumers to share their data?
2. What are their expectations of retailers to make them comfortable sharing their data?
3. How do consumers develop trust in retailers?

Therefore, the report contributes to the following:

1. Understand factors that motivate/dissuade consumers from sharing their digital data
2. Identify indicators of consumer trust when sharing digital data
3. Assess retailers’ data gathering and management readiness
Method

Due to the exploratory nature of this research, interviews were conducted to obtain answers related to the research aims. Qualitative methods such as interviews assist in providing a ‘deeper’ understanding of the social phenomenon (Silverman, 2013). Interviews were conducted in person as well as via the video conferencing platform Zoom—whichever mode was suitable for the respondents. Each participant received an incentive of a $4.50 takeaway coffee voucher for taking part in the interview. Ethics clearance was received prior to recruiting the participants (approval number 5451). Each participant was provided with a detailed information sheet before taking part in the interview. The interviews were conducted only after receiving participants’ consent (see Appendix A).

We recruited 42 consumers and 20 retailers from Australia. Out of the 42 consumers, 14 were from the 18–30 age group, 14 were from the 31–50 age group, while the remaining 14 were aged 50+. Figure 1 provides a demographic overview (i.e., gender and age group) of the consumers involved in this study. A snowball sampling approach was used to recruit consumers. Convenience sampling was used to recruit retailers. Retailers were approached using LinkedIn and their publicly available email addresses and were recruited from the hospitality industry, food and beverages industry, furniture stores, salons, the gaming industry, clothing stores, supermarkets, specialty stores and e-commerce businesses.

![Figure 1: Demographic overview of consumers.](image)

A semi-structured questionnaire was used to conduct the interviews. The questions were based on the research aims identified in Section 1 of this report. We had consumer-specific and retailer-specific questionnaires (see Appendix B). Both questionnaires started by requesting respondents to provide their views on digital data. Consumers were then asked to share the factors that motivate or prevent them from sharing their digital data with retailers. Following this, we asked consumers to share measures that would enable them to trust retailers. The questions were open-ended for consumers as the interview was exploratory in nature. For retailers, the questionnaire started with their views on digital data. This was followed by questions assessing their readiness to transition to new technologies to collect digital data and their understanding of data governance. Questions relating to data governance practices were then asked. These questions were open-ended.
Inductive coding was used to analyse consumers’ and retailers’ responses. Inductive coding allows themes to emerge from the data (Chandra & Shang, 2019), which was the objective of this study. NVivo, a qualitative data analysis tool, was used to analyse the responses in order to maintain a transparent trail of evidence. For coding, initially 12 empty nodes were created. Nodes are like an empty folder in NVivo. The nodes were: consumers’ views on digital data, consumers’ comfort in sharing data, consumers’ comfort with technologies, factors that motivate consumers to share data, indicators of trust for consumers, consumers’ intentions to share data, consumers’ expectations of retailers, retailers’ views on digital data, retailers’ transition to new technologies, understanding of data governance, data governance practices, and changes retailers are willing to implement. Following this, multiple rounds were involved in the coding process. In the first round, if a statement could be related to any of the existing nodes, it was coded under that node. If a statement could not be associated with an existing node, a new node called ‘interesting insights’ was created. In round 2, the content within each node was visited and statements were grouped together into themes. In round 3, the content in the interesting insights node was reviewed, and statements were grouped together into themes. The final themes from each of the nodes are presented in this report.

Findings

Consumers’ views on digital data

Insight 1: Easy access to information is cited as a popular use of digital data

Easy access to information was reported as the most common use of digital data by consumers. Consumers mentioned that digital data can be used to understand what consumers want, understand consumers’ spending behaviour and recommend tailored products to consumers. This is in accordance with the OECD's (2021) observation that access to digital data is of increasing significance in enhancing public service delivery. Other uses were also observed, which are presented in Figure 2. Overall, there are different aspects of use of digital that have been highlighted by consumers, such as easy access information, connect and communicate with others, enhance the business performance including service maximization, getting recommendations for products, ability to track the information, ensure the security of payment, having eco free environment (digital data reduces the use of paper-based transactions), and being aware of past transactions. It is suggested that retailers consider these perceived advantages by consumers and use consumers’ digital data to meet these expectations.
Insight 2: A breach of privacy was the major risk observed by consumers in sharing digital data

Consumers raised the risk of privacy breaches as their greatest concern. Consumers did not want their personal details to be compromised because of the increasing number of e-security threats these days, such as hacking of bank accounts. Fears of sensitive details being leaked and being spammed with emails were additional risks perceived by consumers (see Figure 3). Digital transformation has made data vulnerable to a number of security threats, such as hacking, phishing, unauthorised access and Trojan horse attacks (Nguyen Duc & Chirumamilla, 2019). It is therefore suggested that retailers implement practices that safeguard consumer data against the potential threats consumers mentioned in the interviews.

![Figure 2: Uses of digital data.](image-url)
Comfort with sharing data

Insight 3: Consumers in the 18–30 age group were most comfortable while consumers who are 50+ were least comfortable in sharing digital data when compared to other age groups

It was evidenced that consumers in the 18–30 age group were relatively more comfortable in sharing digital data than other groups (see Figure 4). This is because they are used to using new technologies in their day-to-day life. For example, one consumer said, “I was buying online before COVID and was doing the same during COVID. It made no difference to me” (Interviewee 8, 18–30, Male). This can be related to the fact that the younger generation has greater access to technologies and the internet, making them more aware of the pros and cons of technology and, hence, are more comfortable in sharing data (Norton, 2021). On the contrary, consumers in the 50+ age group were evidenced to be more comfortable with in-person retail experiences and did not like sharing their digital data. According to one respondent, “[I was] not comfortable sharing data. I was scared that data could be misused” (Interviewee 10, 50+, Female). According to Lancaster University (2018), this may be related to the fact that older people are scared of making mistakes due to the use of technology being new to them. Furthermore, older people also spend considerably less time online than younger adults, which is another reason why the older generation is not very comfortable sharing data online.
Comfort with using new technologies

Insight 4: Consumers aged 18–30 are more comfortable with adapting to new technologies compared to the other two age groups

Consumers from the 18–30 age group were more comfortable in using and adapting to new technologies during the pandemic than the other two age groups (see Figure 5). For them, most of the technologies were normal as they had used some of those technologies before the COVID-19 era. In addition, consumers in this age group seem to be tech-savvy because digital technology usage is part of their day-to-day working and personal life:

“Yes [I was comfortable], because I have been using digital communication as part of my work. It was comfortable and address[es] how we meet our real life.”

(Interviewee 9, 18-30, Male)

Figure 5: Comfort with using new technologies by age group.

Insight 5: Contactless payments were the most popular technology used during the pandemic, while chatbots were not a preference across any of the three age groups
Contactless payment was the most comfortable technology for the majority of consumers except for a few in the 50+ age group. The main reason found for this was many consumers had used contactless payments even before the COVID-19 pandemic in their daily activities. Consumers in the 50+ age group still found this difficult, mostly because they are not going shopping and, if they are, they receive support from their caregivers with their shopping and when adapting to these technologies.

In contrast to contactless payments, the preference for using chatbots was low across all three age categories. The common rationale behind this is that chatbots do not help with the actual information that consumers are looking for; the chatbot service mostly directs consumers to a human agent after spending a certain amount of time on their query.

**Factors that motivate consumers to share data**

**Insight 6: Having trust in the organisation was essential for sharing digital data across all age groups; government regulations were another factor influencing why consumers were willing to share their digital data**

Consumers across all age categories and both genders conveyed the significance of being able to trust the company in order to share data with them (see Figure 6). This is in accordance with Forbes Technology Council (2020), which reinforce the importance of companies being able to build consumer trust. Trust is what drives an organisation’s profit margin and share price (Walker, 2020). It is imperative that retailers recognise the need to integrate practices that induce trust in consumers. Walker (2020) highlights several tips for building trust in a retail brand, such as fulfilling customer expectations, communicating relevant offers to customers, building a unique and distinctive brand, and creating a culture of trust. It is essential that retailers consider inculcating practices that build brand trust, which is considered the holy grail of retail trust (Walker, 2020).

![Factors Motivating Consumers to Share Data](image)

Figure 6: Factors that motivate consumers to share data across all age groups.

**Insight 7: Having access to data and knowing why data is collected are two major factors motivating consumers in the 18–30 age group to share their digital data**
Interviews revealed several factors that motivate consumers in the 18–30 age group to share digital data: the ability to access data, government regulations, knowing why data is collected, receiving tailored discounts, trust in the company, ability to use data in the future, to continue with the same vendor, having guidance on sharing data, and maintaining a loyalty card (see Figure 7). Consumers in the 18–30 age group communicated the importance of knowing why data is collected and being able to access data using an account as factors that motivate them to share data. The factors highlight the need for transparency in data collection and retention by retailers, which, in turn, is believed to impact their trust in the company. According to Reichheld, Allen, Bondar, O’Connell and Sussman (2020), transparency—the belief that an organisation openly shares information about its practices—is important for digital trust, which is also evidenced in the interviews.

Figure 7: Factors that motivate consumers aged 18–30 to share their digital data
Insight 8: Receiving tailored discounts and retailers’ ability to use data in the future were two popular motivating factors for sharing data among 30+ consumers. It was interesting to note that for consumers over 30 years of age—that is, the 30–50 and 50+ age groups in our study—receiving tailored discounts and the retailer’s ability to use data for future use (e.g., by having pre-filled forms) were considered as factors motivating them to share data (see Figure 8). This reveals that consumers want their data to be of use to them in the future. This aligns with the findings of Lewrén, Murdoch and Johnson (2014), who note the significance of providing options for personalised products to influence consumers to share their digital data.

Figure 8: Factors that motivate consumers to share digital data across all age groups.

**Indicators of trust for consumers**

Insight 9: Having a clear and easy-to-understand set of terms and conditions and system verification for identification were two popular trust indicators for female and male consumers respectively in the 18–30 age group.

The majority of females in the 18–30 age group mentioned that having clear and easy-to-use terms and conditions is the most important trust factor (see Figure 9). By expressing this, they acknowledge that terms and conditions are the least attended components by the consumers regardless of their importance. This is because even though consumers know that terms and conditions provide important information for their data usage, they are not interested to read them as they find reading the terms and conditions a cumbersome process.

“Make [sic] terms and conditions available is good, but the way they [are] described is too heavy, and [they] need to be [provided in a] different mode of communication.” (Interviewee 22, 18-30, Male)
Further, the majority of males in the 18–30 age group reported that identity verification is the most important factor that makes them comfortable sharing the data with a retailer. They highlighted that identity verification is a sign ensuring that their data is secure and cannot be accessed by other users.

“Verification of identity already demonstrating that security has applied.”
(Interviewee 35, 18–30, Male)

This substantiates the discussion of Albinson, Balaji and Chu (2019), highlighting that customer identity verification reduces the risk of fraud, which enhances digital trust by establishing data security and reliability.

**Insight 10: For both female and male consumers in the 30–50 age group, the most popular indicator of trust is easy-to-use technology followed by system verification of identity and clear and easy-to-understand terms and conditions**

For the 30–50 age group, easy-to-use technology was the most popular trust indicator for sharing data with retailers. While this is the top reason out of all the other indicators, there was a lack of consensus among consumers concerning the other trust indicators. Some consumers mentioned that people don’t read and pay attention to retailers’ terms and conditions due to their non-attractive presentation; as such, they don’t see visible terms and conditions as their best reason for making them comfortable in sharing data with retailers, but it is an important factor to consider when sharing data with retailers. Consumers also proposed some suggestions for retailers to encourage consumers to read the terms and conditions. As such, including only the important facts, presenting them in a visually attractive way (such as using graphical methods), and making them brief and strong in the message, i.e., precise and succinct, are some of the suggestions consumers made to change the presentation of terms and conditions:

“I never read them. The way that [terms and conditions are] provided is useless; no one will read long documents. They [retailers] should present [them in] much better
ways. Maybe graphically visualise them or a summary with key points where [the] user can read [them] quickly. Even short videos." (Interviewee 25, 30-50, Female)

Figure 10 outlines the indicators of trust raised by consumers aged 30–50.

![Figure 10: Indicators of trust for consumers aged 30–50.](image)

**Insight 11:** Easy-to-use technology and clear and easy-to-understand terms and conditions were the most popular indicators of trust for both male and female consumers in the 50+ age group

For consumers in the 50+ age group, the most popular trust indicator was easy-to-use technology. Since the majority of consumers in this group seek support from their caregivers to adapt to technologies, they noted that if the technology is easy to learn and use, that would be a factor for them to use it and share their data with retailers. They also acknowledged the importance of knowing why their data is being collected and for what purposes it is being used through retailers’ terms and conditions. Figure 11 outlines the indicators of trust raised by consumers aged 50+.
Overall, the most popular trust indicators across all three age groups are clear and easy-to-understand terms and conditions, easy-to-use technology and a system that verifies the consumer’s identity (see Figure 12). In addition to these factors, knowing why data is collected, ensuring privacy and enabling consumers to give feedback to retailers are some other trust indicators that consumers highlighted as making them comfortable in sharing data with retailers.
**Consumers’ expectations of retailers**

**Insight 12: Being transparent was the most mentioned expectation of consumers across all age groups and for both genders**

Consumers expect retailers to be transparent; this will help consumers to understand why their data is being collected, whether retailers are complying with the standards and regulations of data sharing and protecting the security and sensitivity of consumer data, and whether retailers use data for good purposes. This is substantiated by scholars’ discussions on transparency, where data accessibility is one of the four pillars of digital data trust, specifically among retail consumers (Albinson et al., 2019):

> “Organisations need to [be] clear about their terms and conditions/transparency; make sure that [there is] no third-party access to our personal data. There should be no risk to our money transactions, payment gateways, etc.” (Interviewee 3, 30–50, Female)

In addition, the ability to provide feedback to retailers, hearing back from retailers in relation to their queries, making consumer feedback available to the public, using data only for a good cause, complying with federal and other regulations when collecting and using data, and ensuring the ethical standards of data collection are met are other aspects that consumers expect from retailers, which, in turn, make them more comfortable in sharing their data and ensuring that such sharing is worthwhile. According to Albinson et al. (2019), this may be related to the fact that establishing tools to test fairness and biases to ensure ethics and responsibility concerning digital data are identified as recommended data governance practices to enhance consumers’ digital trust:

> “Retailers need to have everything standard for IT [information technology], and information security, [and] have ethical standards.” (Interviewee 16, 18–30, Male)

**Consumers’ intentions to share digital data and data use for analytical purposes**

**Insight 13: Regardless of the age group, consumers are happy to share their digital data, and they recognise retailers use this data for analytical purposes**

Overall, the majority of consumers value sharing digital data, believing it leads to good outcomes for both consumers and retailers. Consumers recognise that by sharing their digital data, retailers can understand their consumers better, and consumers can develop trust in retailers (see Figure 13):

> “I think it is [sharing digital data] good for both parties—Retailers understand their consumer[s] more; consumers develop the trust [in] the retailers.” (Interviewee 15, 18–30, Male)
Moreover, the majority of consumers are also happy for retailers to use their data for analytical purposes, expecting that it is a part of the business:

“I accept that it is a part of the business. If it will not make [sic] huge effect to my data threat [that] would be good. Also, if they provide the outcomes of the data analysis, it will give more confident [sic] to perceive data is being used in a good way.” (Interviewee 35, 18–30, Male)

Consumers also raised concerns that when retailers use their data for analytical purposes, consumer data needs to be anonymous, analytical results need to be public and retailers need to give something back to the community in exchange for using their consumer data.

**Retailers' views on digital data**

**Insight 14: Small and medium enterprises use digital data to improve consumer experiences or reach more consumers**

The significance of digital data was evidenced by SMEs. There is a growing realisation of the need to use digital data to improve customer experiences by offering them tailored discounts and recommending personalised products. As mentioned by an SME retailer, “It is useful for the analysis of service and product recommendation[s]” (Retailer 17). Furthermore, digital data was also cited as being useful in reaching out to customers and growing the business. For example, a retailer from a small business mentioned, “digital data is really important to grow[ing] [your] business and to make a customer base. It is also required for launching a new product and approach[ing] customers who are likely to buy it. It can be used to upsell and bring a new product [to market]” (Retailer 8). Table 1 presents the themes (key uses of digital data) according to the type of enterprise and provides sample quotes from retailers in relation to the themes.
<table>
<thead>
<tr>
<th>Theme</th>
<th>Type of enterprise</th>
<th>Sample quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to historical data</td>
<td>Large Enterprise</td>
<td>“Can use for marketing purposes. Using business transaction data for analysis that can [be] use[d] for marketing purposes.” (Retailer 3)</td>
</tr>
<tr>
<td>Effective communication with clients</td>
<td>SMEs</td>
<td>“Digital data is used to communicate with [the] right clients.” (Retailer 9)</td>
</tr>
<tr>
<td>For marketing purposes</td>
<td>SMEs</td>
<td>“We can market the right product to consumers.” (Retailer 9)</td>
</tr>
<tr>
<td>To understand customers to reach more customers to increase sales</td>
<td>SMEs Large Enterprise</td>
<td>“Obviously useful. We can understand our customer. How do you market specific product[s]? Who are your customers? How competitive you are if you have the data.” (Retailer 13)</td>
</tr>
<tr>
<td>Time-saving</td>
<td>Large Enterprise</td>
<td>“It saves time as we don’t need to go out and collect data.” (Retailer 19)</td>
</tr>
<tr>
<td>To level competition</td>
<td>Large Enterprise</td>
<td>“Digital data is a new channel. [It is] an ever-changing way of dealing with our customers. Another vehicle [to succeed]. We need to operate on alike competitors [i.e., competitors in the same industry]. If we need to succeed, we better do it soon.” (Retailer 18)</td>
</tr>
<tr>
<td>Enhance customer experience/provide benefits to customers</td>
<td>Large Enterprise SME</td>
<td>“We use machines to collect data; it [has] become useful to maintain the records for rewards. Who has what record; how to give them back.” (Retailer 6)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“We collect consumer data; I think [our] main branch use them for improving the business and for providing benefits for consumers.” (Retailer 4)</td>
</tr>
<tr>
<td>Identify and introduce new products</td>
<td>SME Large Enterprise</td>
<td>“…digital data is really important to grow [your] business and to make a customer base. It is also required for launching a new product and approach[ing] customers who are likely to buy it. It can be used to upsell and bring a new product [to market].” (Retailer 8)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Basic consumer name[s] and addresses, third-party companies, phone number[s], work history will be collected. It is useful for the analysis of service and product recommendation[s]. Salesforce [software] is using [consumer data] for data management purpose[s].” (Retailer 17)</td>
</tr>
<tr>
<td>Assists in modelling demand</td>
<td>Large Enterprise</td>
<td>“Consumer data is useful for [a] lot of prediction. For predictive model[s] for demand, a lot of anonymous data is being used.” (Retailer 11)</td>
</tr>
<tr>
<td>Not a big concern</td>
<td>SME</td>
<td>“In terms of customer data, we don’t much bother about it except [for] the daily business data recorded in the EFTPOS system.” (Retailer 1)</td>
</tr>
<tr>
<td>Public service improvements</td>
<td>SME</td>
<td>“…good for public health and service improvements.” (Retailer 12)</td>
</tr>
<tr>
<td>To build targeted audience segments</td>
<td>Large Enterprise</td>
<td>“It is quite relevant. It helps us build targeted audience segments.” (Retailer 19)</td>
</tr>
<tr>
<td>To evaluate customer interactions</td>
<td>Large Enterprise SME</td>
<td>“It helps us evaluate how [the] customer interacts with [the] product.” (Retailer 19)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“It is important to have and collect digital data. [The] Business has different benefits, for example transaction analysis.” (Retailer 2)</td>
</tr>
</tbody>
</table>
Insight 15: Large enterprises use digital data to gain a competitive edge, identify new products and make predictions about the future

The use of digital is more prevalent in large organisations, primarily because of the larger amount of digital data collected. The responses convey that digital data is used to gain a competitive edge; in particular, to identify customer segments to target, identify potential new products that can be launched, and explore areas where growth is possible. Digital data is also used to build prediction models, which are then used to make predictions about the future. For example, as one retailer explained, “Consumer data is useful for [a] lot of prediction. For predictive model[s] for demand, a lot of anonymous data is being used” (Retailer 11). The need to use digital data to understand consumers and forecast future demand has been raised by Burns and Harris (2022) due to the omnipresence of retailers and customers requiring a seamless shopping experience. It is therefore essential that digital data be used to forecast future demand and uncover shoppers’ behaviours and expectations to ensure retailers are heading in the right direction.

Retailers’ views on the risks of digital data

Insight 16: Regardless of the type of business (i.e., SME and large enterprise), all retailers identified that ensuring the security and privacy of consumer data is the main risk

Loss of customer data due to security breaches, system crashes and data leakages when using consumers’ digital data was the most common risk factor identified by retailers. On the one hand, data leakage can influence consumers’ privacy, where the company has to be accountable for such risk, while, on the other hand, data leakages may expose consumer data to competitors, which can impact business sustainability. Table 2 outlines the different types of risks perceived by retailers in relation to consumer data.

Table 2: Retailers’ views on the risks associated with digital data.

<table>
<thead>
<tr>
<th>Theme</th>
<th>Type of enterprise</th>
<th>Sample Quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyber security attack</td>
<td>Large Enterprise</td>
<td>“… with [a] cyber security attack, if the customer data getting [sic] affected, we as the company is in a risk [sic] since we are accountable for those data.” (Retailer 6)</td>
</tr>
<tr>
<td>Exposing data to competitors</td>
<td>SME</td>
<td>“…if it [data] goes to competitors, it might be a risk for the business.” (Retailer 16)</td>
</tr>
<tr>
<td>No threats</td>
<td>SME</td>
<td>“Can’t see any threats behind that. It is only business data.” (Retailer 4)</td>
</tr>
<tr>
<td>Accountability of data leakage</td>
<td>Large Enterprise</td>
<td>“Privacy. [The] Company needs to make sure to manage any incident of breaching or leaking. Needs to manage ethical consideration of consumer data.” (Retailer 13)</td>
</tr>
<tr>
<td>System crashes and data leakage risks</td>
<td>Large Enterprise</td>
<td>“…how secured the Salesforce [software] is [I’m] not sure. Depending on that security standard. Internal[ly] any employee can go and edit the customer data. [The] Data-entering process is manual. This may risk leaking the data.” (Retailer 7)</td>
</tr>
<tr>
<td></td>
<td>SME</td>
<td>“Data keeping and managing is a threat. We need to have proper storage. We need to ensure it is secure and safe somewhere.” (Retailer 9)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Threats—if our system is hacked and we lose the digital data,</td>
</tr>
<tr>
<td>Theme</td>
<td>Type of enterprise</td>
<td>Sample Quotes</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Privacy risk</td>
<td>Large Enterprise</td>
<td>“When you place customer orders, transferring the data over the phone seems unsecure for the other person. We have had cases where someone else’s card has been used.” (Retailer 14)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>then how do we recover the data? It is also a privacy breach.” (Retailer 8)</td>
</tr>
</tbody>
</table>

**Retailers’ views on data governance**

**Insight 17: Fifty-five per cent of retailers do not recognise the significance of data governance; their focus is on the growth of the business**

It was interesting to note that over half (55%) of the retailers interviewed—primarily from SMEs—did not know what data governance meant or what it involved. It was also evident from their responses that their main focus at this stage was to grow their business; thinking about collecting digital data and using it to improve the business was not a priority. Nonetheless, it is essential that SMEs recognise the significance of data governance because of the enormous contribution these retailers make to the economy. The size of the firm is not a direct measure of the data they may have to deal with, and firms cannot ignore the digital environment they are working in (Okoro, 2021). Data governance is seen as a promising approach to maintaining the quality and use of data in organisations (Otto, 2011); it has an influence on the strategic and operational decisions of SMEs and, hence, should be treated as an asset (Okoro, 2021). It is therefore essential that SMEs are encouraged to realise the importance of data governance for their businesses.

**Insight 18: Large organisations use data governance for the secure use of data, compliance with industry and government standards, and to have an understanding of how to capture, store and use data for business improvement**

Large retailers were familiar with the term ‘data governance’. In fact, large retailers also had a dedicated team investigating data management and governance. It was evidenced that data governance meant different things to different retailers. For some organisations, governance assists in ensuring the secure use of customer data. For example, according to one retailer, “If companies take data from customer[s], security should be implemented. It makes customers trust the company. Therefore—data governance—it is important” (Retailer 15). Data governance also helps retailers abide by legal regulations and industry standards: “Data governance ensures we follow the standards” (Retailer 19). Finally, some responses illustrated the use of data governance to collect the right data of appropriate quality and then use it in the right manner to provide business improvement insights. The responses highlight that large retailers are aware of the need for and use of data governance; however, it is still in its infancy. It is expected that it will be several years before data governance is embedded into retailers’ organisational culture. As mentioned by one retailer, “There is a need for everyone in the organisation to be aware of data strategies. There is a need for it to be a part of the organisational culture” (Retailer 20).
Retailers’ data governance practices

Acknowledging the fact that retailers may not be familiar with the term ‘data governance’, several questions about the dimensions of data governance were asked (see Appendix B). These dimensions are proposed by the Data Management Association, a body of knowledge that is dedicated to advancing knowledge and practices in the areas of data management and governance (Mosley et al., 2010). Figure 14 provides an overview of the existing practices used by retailers.

![Data Governance Practices](image)

Figure 14: Retailers’ views on data governance practices.

Insight 19: None of the retailers focused on all dimensions of data governance. Data storage, data security, data quality, and data reporting are the dimensions that have received the most attention to date

The responses convey that considerable effort is still required for the appropriate implementation of data governance at the organisational level. This is because none of the retailers interviewed have considered building capabilities around all dimensions of data governance. Currently, retailers are focusing on data storage and security. This is due to the fact that they are receiving a huge volume of data due to digital transformation, which they need to maintain in a secure manner. The majority of retailers are using cloud-based architecture for storage and rely on the security protocols implemented by their service provider. Additionally, data quality is also a consideration that retailers focus on. This is because they understand that the data needs to be of the right quality to be able to rely on the insights obtained from the data analysis. Data is also used for reporting, and many companies are using data reporting to see how they are performing. Having said that, none of the retailers had defined data quality standards and metrics; anomalies are handled and addressed as and when issues are encountered.

Insight 20: There is a need for organisations to have a defined data strategy

Retailers’ responses convey that while there is a need for the right data to be captured and for it to be analysed for business improvement purposes, data strategies are not defined at the organisational level. Being able to define an organisation-wide data strategy is considered an essential competency for an organisation (Alhassan, Sammon, & Daly, 2019). This needs to be
a defined strategy that will enable data to be treated as an asset (Alhassan, Sammon, & Daly, 2019). For example, there needs to be clear policies and procedures for the manual entry of data into an organisation’s systems. The lack of a clear data strategy prevents employees from understanding what data needs to be collected, how it needs to be collected, the way it needs to be stored and secured, and how it needs to be analysed. The fact that 60% of retailers conveyed they did not have a data strategy in place highlights the need to recognise the significance of having defined data strategies in organisations.

**Insight 21: There is a need for organisations to define ‘meta-data’**

Ninety per cent of retailers conveyed a lack of existence of meta-data at the organisational level; however, the responses clearly indicated the need for meta-data or a business glossary in order to have a common understanding of data and business. Business glossary maintains the key terms used across the organisation along with their definition, allowing everyone to have a common understanding of the terms. According to Retailer 10, “we are creating meta-data because of its demand in the organisation”. Meta-data is useful in data governance as it allows retailers to derive value from the data they have at their disposal. Meta-data also allows users to classify and organise data for compliance purposes and to highlight sensitive information that can prevent privacy breaches (Varshney, 2021).

**Retailers’ views on having adequate technologies to collect consumer data**

**Insight 22: The majority of retailers have adequate technologies to collect consumer data; however, whether or not the technology is sufficient is not a concern for SME retailers**

The majority of retailers conveyed that they have adequate technologies to collect consumer data, highlighting that their current systems have the required capabilities (see Figure 15). Oracle-based technologies, cloud-based technologies (e.g., Microsoft), SQL, Salesforce and R are some of the technologies retailers mentioned using in their current systems. However, the view of the majority of retailers in the SME category is that they are not particularly concerned about whether the technologies they are using are adequate or not—mainly because they don’t see a need to advance consumer data collection or usage:

“Have not think [sic] about it before, coz we don’t see much need of [sic] collecting consumer data.” (Retailer 1, SME)
Regardless of whether they have adequate technologies or not to collect consumer data, retailers also expressed various advancements that they want to see in their current systems. For instance, technologies to resolve weaknesses in their current system (e.g., not being able to collect correct data) (Retailer 17, Retailer 10) and to enhance the speed of the technology (Retailer 7) are some of the concerns that retailers want to address in terms of advancing their technologies:

“Sometimes customer IDs expire, those data is [sic] not tracked at the moment. When customer due diligence dissolves, there is no way to track it. It only get[s] update[d] if the customer contacted [sic] the company.” (Retailer 17, Large Enterprise)

“[if] we could fashion a device such that we don’t have to ask people about their email address and phone number [it will improve the process]. People scan a bar code such that information comes to us. This would allow [for] spelling mistakes as well.” (Retailer 10, SME)

“Happy with Salesforce, but it is very slow.” (Retailer 7, Large Enterprise)

**Transition to new technologies during the COVID-19 pandemic**

**Insight 23:** The majority of retailers who participated in the study conveyed that transitioning to new technologies during the COVID-19 pandemic was not a challenge

One of the interesting findings of the data analysis was that transition to new technologies during the pandemic was not a challenge for retailers. This was mainly due to no new technologies being integrated into retailers’ existing consumer data collection and analysis processes. The increase in digitalisation of online transactions was the main change highlighted by retailers in terms of their current data management processes. However, the majority of retail participants conveyed that they were used to online-based transactions, which made it easier to cope with the transition during the COVID-19 period.
Retailer suggestions: What can retailers do better?

Insight 24: Retailers identified the need to have better technologies, better data quality, better security and an integrated data governance framework for effective use of their data.

The majority of retailers provided suggestions to improve current technology use to cater to better data governance practices surrounding enhancements in data quality, security and data governance frameworks. Accordingly, enhancing data quality measures, implementing practices to minimise human errors, advancing technology to ensure data security, establishing proper governance and defining proper data management practices are some of the insights provided by retailers as improvements to be considered.
Recommendations

Based on the key insights from the study, the following recommendations are presented for retailers:

1. Retailers should use consumers’ digital data to understand consumers better and provide them with personalised products and services.
2. Retailers need to ensure that they implement adequate security protocols to prevent privacy and security breaches. Retailers can use third-party services and deploy internal protocols to provide such security.
3. Retailers that target a population who are 50+ need to adopt technology that is easy to use in order to collect good digital data.
4. Retailers should use technology to comply with government regulations and industry standards to ensure that people aged between 18 and 50 are comfortable sharing data.
5. Retailers need to implement practices to build consumer trust; if a consumer trusts an organisation, they are likely to share their digital data with that business.
6. Retailers should provide consumers with user accounts, particularly in the 18–30 age group, so that they can upload data and access it and also give consumers sufficient information regarding why the retailer is collecting the data.
7. Retailers should use digital data to provide personalised recommendations to people in the 30+ age group.
8. Retailers should develop strategies to ensure that their 30+ consumers believe that sharing their data is making things easier for them (e.g., providing pre-filled forms).
9. Retailers should ensure that they present consumers with their privacy terms and conditions in a succinct and easy-to-understand format.
10. Retailers should use technology that verifies the consumer’s identity to ensure consumers that their data is safeguarded by additional security protocols.
11. Retailers should make their processes as transparent as possible to consumers so that consumers can trust sharing their data with retailers.
12. Consumers are happy to share data with retailers for analytical purposes in the hope that it will benefit them through the provision of tailored goods and services.
13. Small—and some medium—enterprises require training and knowledge on the need to collect digital data and use it for the benefit of their business.
14. Large organisations need training to be able to use the collected data to improve their business.
15. Retailers need awareness regarding data governance and the different dimensions it encapsulates. This is important in helping businesses to start building capabilities around those dimensions.
16. Retailers should allow ways for consumers to provide feedback on their practices.
17. Retailers need to have a defined data strategy that articulates what data needs to be collected, how it needs to be collected, how it will be stored and secured, and how it will be analysed.
18. Retailers should train their staff in the areas of data quality, data storage and meta-data.
19. Retailers need to foster a culture of data within their organisations.
Conclusion

The retail industry has significantly shifted towards online trading due to the influence of the COVID-19 pandemic. With this online presence, there are several changes facing the retail industry in which the use of digital data has become critical. With the increasing use of digital data, ensuring digital trust has become more important than ever. As such, to ensure that retailers can gain consumers’ digital trust, there is a need for better data gathering and management practices. This heightens the importance of data governance for the retailing industry. In this study, we answered the following questions: What are the factors that motivate consumers to share their data? What are their expectations of retailers to make them comfortable sharing their data? and How do consumers develop trust in retailers? From the retailer’s perspective, this research also assessed retailers’ readiness and data governance maturity to provide key recommendations for the retail industry.

We conducted semi-structured interviews with randomly selected consumers from three different age groups (18–30, 30–50, 50+) and with 20 professionals who represented different retail sectors. From the findings and analysis of the qualitative data, we identified 24 insights that can be used by retailers to identify strategies to enhance consumer trust to ensure consumers share data digitally.

While recognising the explorative nature of the study’s qualitative research method, we recognise the limitations of the study; however, these limitations present opportunities for future research extensions. Firstly, we applied a snowball sampling technique to recruit participants from three different consumer groups. Future research should extend the same research scope by increasing consumer participation to have a wider coverage of male and female consumers in all age groups. Similarly, for the retail sector, we interviewed 20 professionals who work in the retail industry. The different roles of these professionals in their organisations influenced the level of insights they were able to provide in terms of data governance practices. Future research should extend the same research scope by targeting specific retail professionals whose roles are more closely aligned to organisational data governance practices. Acknowledging the contribution of the rich insights from the explorative nature of the research method used, we propose future research should extend the research methods to survey data analysis, which will validate the findings of the qualitative insights. Finally, we propose future researchers should extend their investigations with a greater emphasis on organisational data governance practices that can enhance consumers’ digital trust.
References


## Why is the study being conducted?
This research project is funded by Australian Retail Association (ARA) and being undertaken by QUT to develop data governance practices to manage consumers’ trust in digital data.

In this survey, we aim to gather the key elements required for efficient data governance practices for digital data. You are invited to participate in this research project as your insights and opinion are deemed relevant for this project.

## What does participation involve?
Your participation will involve responding to a questionnaire that will take approximately 10-20 minutes of your time. Questions will include:

1. What factors influence consumer trust when sharing data?
2. What factors motivate consumers in sharing data?
3. What data management practices are desirable by retailers?

Your participation in this research project is entirely voluntary. If you do agree to participate you can withdraw from the research project without comment or penalty. You can withdraw anytime during the survey. If you withdraw after your survey, on request any information already obtained that can be linked to you will be destroyed. Your decision to participate or not participate will in no way impact upon your current or future relationship with QUT.

## What are the possible benefits for me if I take part?
This research project may not benefit you directly. However, your insights will assist in the development of data governance practices for retailers to manage consumer data, which will be of greater benefit.

If you choose to receive the result of this study, you will need to provide some basic contact information such as email address. However, your identity will not in any way be connected to other data collected relating to your involvement in the study.

## What are the possible risks for me if I take part?

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**Appendix A: Ethics Documents**

<table>
<thead>
<tr>
<th>Research team</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal Researcher: Dr Kanika Goel</td>
</tr>
<tr>
<td>Associate Researchers: Lakmali Herath Jayarathna</td>
</tr>
<tr>
<td>School of Information Systems, Science Faculty</td>
</tr>
</tbody>
</table>
The research team does not believe there are any risks beyond the time you will be spending in the survey. No personally identifiable information will be asked for during the survey.

**What about privacy and confidentiality?**
No personal information that enables potential re-identification will be asked for during the survey.

Any data collected as part of this research project will be stored securely as per QUT's Management of research data policy. Data will be stored for a minimum of 15 years, and can be disclosed if it is to protect you or others from harm, if specifically required by law, or if a regulatory or monitoring body such as the ethics committee requests it.

As the research project involves an audio recording:
- You will have the opportunity to verify your comments and responses prior to final inclusion.
- The recording will be destroyed 15 years after the last publication.
- The recording will not be used for any other purpose.
- Only the named researchers will have access to the recording.
- It is not possible to participate in the research project without being recorded.

Every effort will be made to ensure that the data you provide cannot be traced back to you in reports, publications and other forms of presentation. For example, we will only include the relevant part of a quote, we will not use any names, or names will be changed, and/or details such as dates and specific circumstances will be excluded. Nevertheless, while unlikely, it is possible that if you are quoted directly your identity may become known.

Please note that data collected in this project will be de-identified may be used as comparative data in future projects or stored on an open access database for secondary analysis.

**How do I give my consent to participate?**
If you submit the responses to the questionnaire, it would be considered as your consent to participate.

**What if I have questions about the research project?**
If you have any questions or require further information please contact one of the listed researchers:

- Kanika Goel k.goel@qut.edu.au 07 3138 4780
- Lakmali Herath Jayarathna Lakmali.herathjayarathna@qut.edu.au

**What if I have a concern or complaint regarding the conduct of the research project?**
QUT is committed to research integrity and the ethical conduct of research projects. If you wish to discuss the study with someone not directly involved, particularly in relation to matters concerning policies, information or complaints about the conduct of the study or your rights as a participant, you may contact the QUT Research Ethics Advisory Team on 07 3138 5123 or email humanethics@qut.edu.au.

Thank you for helping with this research project. Please keep this sheet for your information.
CONSENT FORM FOR QUT RESEARCH PROJECT
– Interview –

Data Governance for Digital Trust
QUT Ethics Approval Number 5451

Research team
Kanika Goel k.goel@qut.edu.au
Lakmali Jayarathna lakmali.herathjayarathna@qut.edu.au

Statement of consent
By signing below, you are indicating that you:
• Have read and understood the information document regarding this research project.
• Have had any questions answered to your satisfaction.
• Understand that if you have any additional questions you can contact the research team.
• Understand that you are free to withdraw without comment or penalty.
• Understand that if you have concerns about the ethical conduct of the research project you can contact the Research Ethics Advisory Team on +61 7 3138 5123 or email humanethics@qut.edu.au.
• Agree to participate in the research project.

Please tick the relevant box below:
☐ I agree for the interview to be audio recorded.
☐ I do not agree for the interview to be audio recorded.

Name ____________________________________________

Signature _______________________________________

Date ____________________________________________

PLEASE RETURN THE SIGNED CONSENT FORM TO THE RESEARCHER.
Appendix B: Interview Questions

**Consumer Questions**
1. What do you think about digital data?
   a. What are its uses?
   b. What are threats?
2. How comfortable were you sharing digital data during COVID-19?
   a. Why?
   b. Were you comfortable with the new technologies used?
      i. Were you comfortable downloading new apps?
      ii. Is there any technology that you prefer? Why?
3. How was the retail experience different for you during COVID?
4. What are the factors that motivate you to share your data when adapting to this change in retail experience?
5. What factors prevent you from sharing data?
   a. What concerns do you have?
6. What can retailers do to ensure that you are comfortable sharing data?
7. Are you comfortable if retailers use data for analytical purposes? What do you expect for that analysis?
8. Overall, do you believe that sharing consumer data is good for consumers as well as retailers?

**Retailer Questions**
1. What do you think about digital data?
   a. What are its uses?
      i. Have you ever used digital data to improve the business? How?
   b. What are threats?
2. Do you think you have adequate technologies to collect consumers’ digital data?
3. Do you think consumers were happy to share their data during COVID?
4. How easy was it to transition to using new technologies during COVID?
   a. What difficulties did you face? Why?
   b. If you had to change something, what would that be?
5. Which technologies did you find the best?
   a. Why?
6. How do you define data governance?
7. What data governance practices are you currently using?
   a. Do you have a defined data strategy?
   b. Is the right data captured?
   c. How is data stored? Can it be improved?
   d. How do you ensure the data quality (accuracy, timeliness, completeness, and credibility)? Are there any standards you follow? [Data quality]
   e. Do you think the data is secure? What measures are employed?
   f. Do you have any plans for data backup and recovery? [Data access]
   g. Can data be integrated from multiple systems?
   h. What are the opportunities for sharing and reusing data identified? [Data principles]
i. Do you have documents that provide details related to data?

j. Is the reference and master data defined? Master data, meaning data about the business; reference data, which is used to categorise other data.

k. Is the data used for analytical purposes?

l. Is the meta-data (i.e., information used to describe other data) maintained?

m. Is attention given to the quality of data?

n. Do you think there are any issues?

o. What are they?

p. How can they be improved?

8. What can be done to better govern the data at your organisation? (What they can do better to implement the aspect that we discussed earlier.)

9. What changes would you recommend in the retail sector to ensure that the right consumers and retailers work together towards a better retail sector?

10. Overall, do you believe that sharing consumer data is good for consumers as well as retailers?