

Impact of Technology and Governance on Consumer Behaviour: A Systematic Review

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ABSTRACT

This comprehensive systematic analysis examines the complicated interplay between technology, governance, and consumer behavior. Technological advancement and shifting governance systems affect consumer behavior; therefore, understanding how they do so is vital. This review meticulously analyzes a variety of literature to elucidate the complex relationships between technology, government, and consumer behavior in many fields. The study highlights how technological advances and governance systems affect customer preferences, attitudes, and decision-making. Governance systems can also regulate how technology affects consumer behavior, according to the paper. This systematic review consolidates current information and identifies promising research areas, offering future directions including technological and governance advances. This review aims to inform strategic decision-making, policy development, and scholarly inquiry in a networked and digitally mediated society.

KEYWORDS

Consumer Behaviour, Decision-Making, Governance, Technology

1. INTRODUCTION

The landscape of consumer behaviour within the technological and governance context emerges as a highly multidimensional and continually evolving sphere, exerting profound influence on various facets of business management. Acquiring a nuanced understanding of how consumers interact with the business environment is imperative for successfully addressing their needs, preferences, and expectations. This comprehension forms the bedrock for crafting effective marketing strategies, optimizing store layouts, formulating pricing strategies, and implementing initiatives related to customer relationship management (Ahmed, S et al. (2023)). At the core of every business's fundamental objective is not only to attract new consumers but also to foster the recurring patronage

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of existing consumers, emphasizing the significance of sustained footfall. For the success of this scenario, the most important rule is customer satisfaction.

As per Figure 1, through the technology like AI recommendation systems, once a business has sensed its target audience, it will be very easy to serve the right products to its consumers to satisfy their needs under the umbrella of a wide range of cost-effective brands inclusive of government policy. In last so many years, research on consumer behaviour covered a wide range of topics, including technology, governance, consumer decision-making, perception, motivation, attitude, and loyalty, among others. This paper emphasises on review of the literatures available on consumer behaviour, with the objective of summarising the key findings, identifying research trends, and proposing future research directions in this field.

It is very easy for a company to sense consumer behaviour while developing a product, but at the same time it's a herculean task to sense the exact needs of its customers to choose the most suitable, known, favourable, eye-catching, and pocket-friendly brands to satisfy its customers. Within the intricate framework of "Impact of Technology and Governance on Consumer Behaviour," the centrality of the customer's ego becomes a pivotal focus in the domain of business management. While they boast an extensive array of products and brands, the quintessential aspect of business management lies in the art of serving the customer, acknowledging the paramount importance of customer-centric practices Airoidi, M et al.(2022). Guided by the principles of 'SERVE,' this customer-centric approach manifests as a strategic imperative for business, shaping the trajectory of customer relationships. 'SERVE' a smile to your 'CUSTOMER,' and 'CUSTOMER' will allow you to 'RE-SERVE' Airoidi, M., & Rokka, J. (2022). Serving a customer has many aspects:

Parking Space: Ensuring convenient and accessible parking facilities.

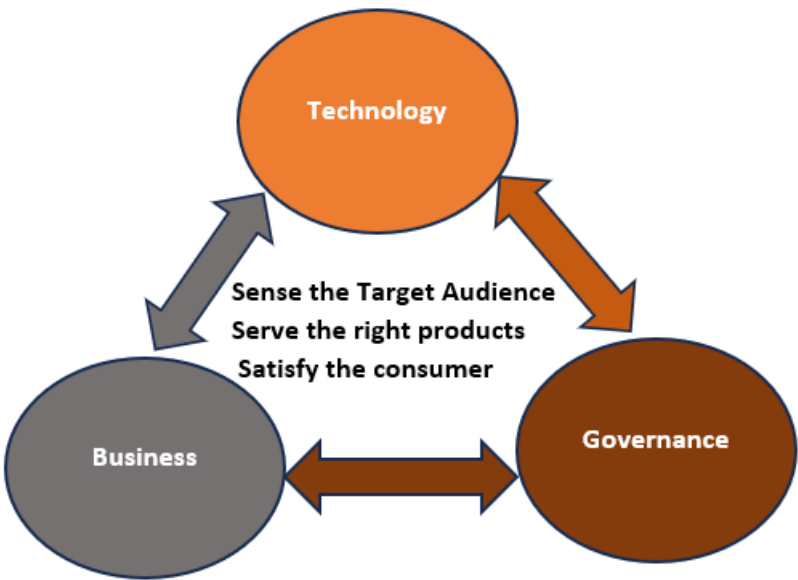
Greetings: Creating a welcoming atmosphere through genuine and friendly greetings.

Attractive and eye-catching Display: Presenting products in an eye-catching and appealing manner.

Clean and Reachable Shelves: Maintaining organized and easily accessible merchandise.

Polite and Helpful Staff: Cultivating a team that prioritizes politeness and helpfulness.

Figure 1. Customer satisfaction by involving technology, governance, and business



Candid Communication: Establishing clear and candid communication through staff interactions or informative billboards.

Walking Space: Providing customers with comfortable and unobstructed navigation.

Hassle-Free Billing: Streamlining the billing process to minimize customer inconvenience.

Attractive Offers: Introducing enticing promotions and offers for future visits.

Easy Exits: Facilitating smooth and hassle-free exits for customers.

Essentially, it is crucial to seamlessly incorporate technology and governance into this customer-focused framework, making sure that progress is in line with the subtle complexities of customer behaviour Yakut, E. (2022). The industry may develop a flexible and adaptable approach to consumer behaviour by integrating technology and governance into every aspect of customer interaction.

Once the customer is served, the only way to know the satisfaction level of the customer is through feedback. Feedback can be taken through feedback forms, telephonically, or through mailers, and the most assuring feedback is repeated customer satisfaction. Now a days, technology plays a crucial role, it provides many applications to review a product/service or to rate the business. These review helps to make up the mind of the customer for a specific product.

2. LITERATURE REVIEW

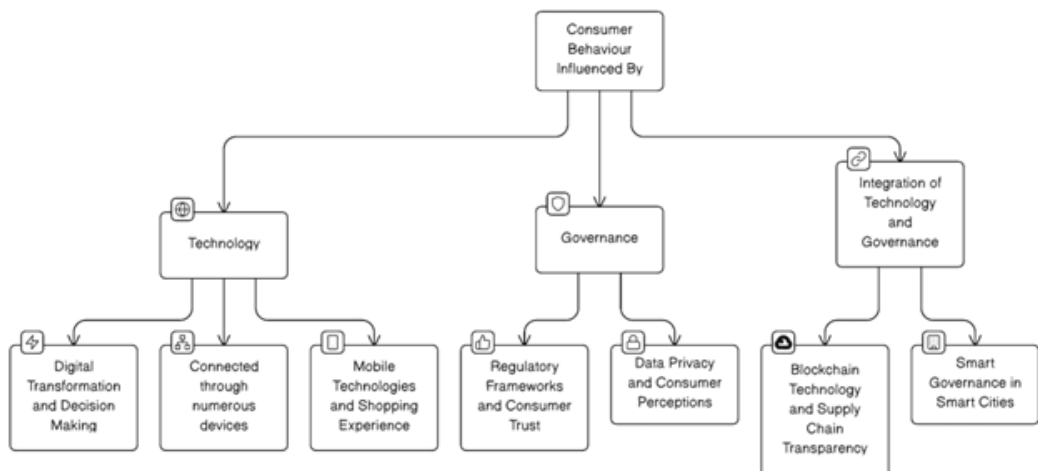
The convergence of technology and governance in the context of consumer behavior has attracted growing interest from both scholars and practitioners.

Technology's Influence on Consumer Behavior: As per Figure 2, there are many factors that plays an important role in influencing the behaviour of consumers. A few factors are discussed below:

Digital Transformation and Decision-It discuss how digital advancements shape consumer decision-making processes, emphasizing the role of online platforms and e-commerce in influencing purchasing behaviors.

Connected through numerous devices-Technology is a rapidly changing factor that has a significant impact on consumer behaviour. It includes various technological advancements, such as e-commerce, mobile commerce, social media, augmented reality, and virtual reality, among others. Technology has transformed the retail landscape, changing how consumers shop, interact with brands, and make purchase decisions. Research has shown that understanding the role of technology

Figure 2. Factors to influence consumer behaviour



in consumer behaviour in retail is crucial for retailers to adapt to the changing consumer preferences and behaviours in the digital era Zhou, Y (2023) & Yakut, E. (2022).

The Business Industry must combine all of their marketing initiatives into a single platform in order to meet the diverse needs of customers based on their preferred technologies. Businesses must develop a solid omnichannel marketing strategy. A brand can engage consumers in the appropriate location and time, with the candid message when they switch between devices. A result of an omnichannel strategy that enables the development of individualised, contextually appropriate experiences. Remarketing strategies are crucial to a successful omnichannel approach. Customers who have left your website and later moved to another device can be re-engaged with push notifications, cart abandonment emails, and browser abandonment emails. The term “omnichannel” describes both the mixing of digital channels and the in-store customer experience. Location-based messaging has the potential to be an effective tool for providing tailored customer experiences in-store. One key advantage of an omnichannel strategy is having access to relevant client data, which can be utilised to support personalization efforts and give clients the experiences they desire. The amount of data produced by clients who are tracked across many devices is far more than that produced by those who are not.

Technology has changed consumer behaviour, raising expectations, but it has also given businesses methods to live up to them. AI-powered chat bots and marketing automation solutions let brands interact with customers more successfully.

Companies may be available with pertinent messaging and information whenever a customer chooses to reach out, thanks to chat bots driven by AI. Customer service and the experiences that brands may provide to their customers are significantly impacted by this. Additionally, consumers are becoming more open to making direct chat-bot purchases. Chat bots also provide extensive archives of customer chats. This generates a brand-new database that can be investigated to find out more about the issues that customers are having and how to improve goods and services.

Consumer expectations will rise even higher as more businesses use AI to enhance their customer relations and marketing. Companies must get ready and give their departments with the resources they need to consistently deliver a high-quality experience that exceeds the expectations of their clients.

Mobile Technologies and Shopping Experience-This explores the impact of mobile technologies on the overall shopping experience, emphasizing the role of mobile apps and augmented reality in enhancing consumer engagement.

As per figure 3, It is anticipated that the number of Internet of Things (IoT) devices around the globe will nearly double by the year 2030, going from 15.1 billion in 2020 to more than 29 billion that will be connected to the internet. By the year 2030, China will have over 8 billion consumer devices, making it the country with the biggest number of Internet of Things devices.

With the consumer market accounting for around sixty percent of all Internet of Things linked devices in the year 2020, Internet of Things devices are utilized in all different kinds of industry verticals and consumer marketplaces.

Governance Influence on Consumer Behavior:

Regulatory Frameworks and Consumer Trust: The study presents the impact of regulatory frameworks on consumer trust, highlighting the importance of clear governance structures in fostering confidence in online transactions.

Data Privacy and Consumer Perceptions: It shows the relationship between governance measures in ensuring data privacy and its effect on consumer perceptions, shedding light on the delicate balance between data collection and consumer trust.

As per Figure 4, It is anticipated that the number of Internet of Things (IoT) devices around the globe will nearly double by the year 2030, going from 15.1 billion in 2020 to more than 29 billion

Figure 3. Number of connected IoT devices

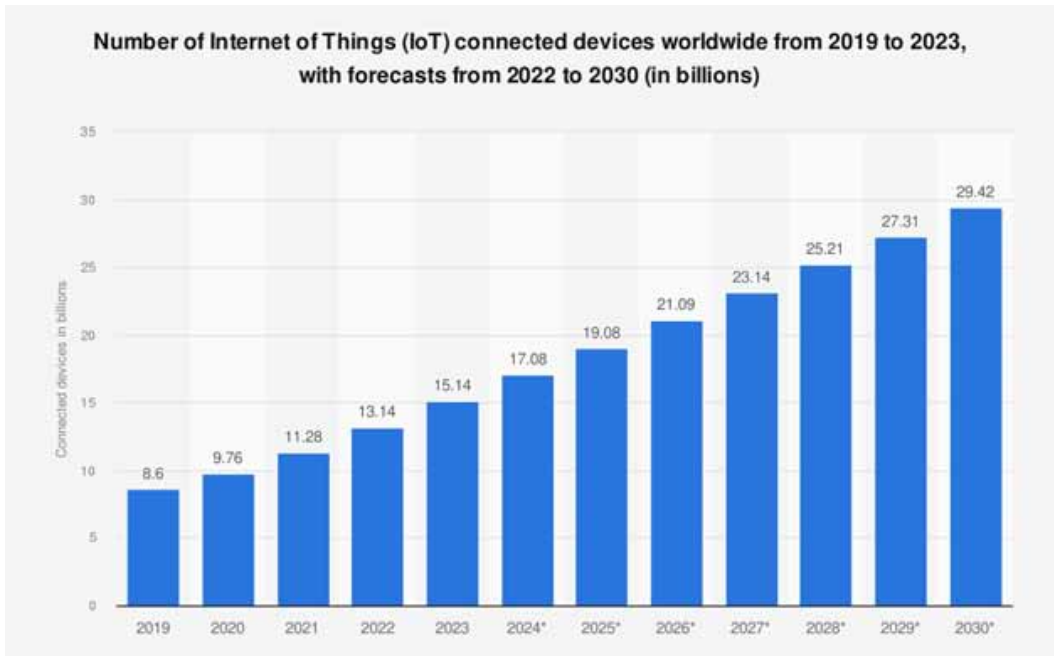
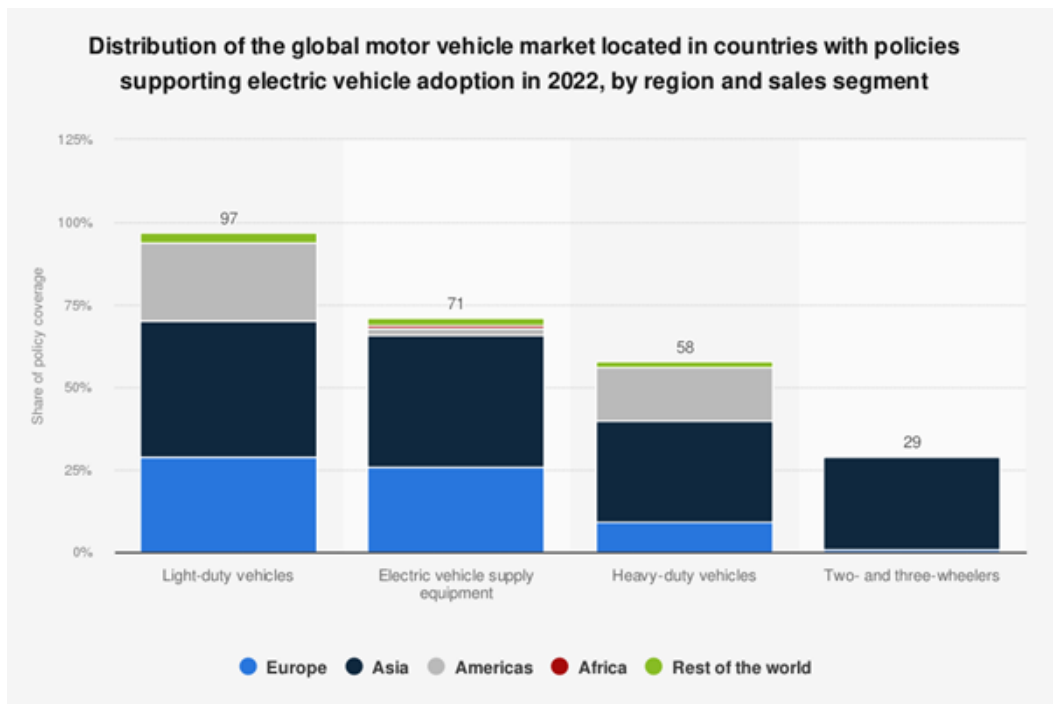


Figure 4. Distribution of the global motor vehicle market in 2022 by region and sales segment in countries with government policies favoring electric vehicle adoption



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Integration of Technology and Governance:

Table 1 presents the development of business based on technology, Governance and the combination of both.

Blockchain Technology and Supply Chain Transparency: This discussed how blockchain technology, underpinned by governance mechanisms, enhances transparency in the supply chain, influencing consumer preferences for ethically sourced products.

Smart Governance in Smart Cities: It analyzes the impact of smart governance in smart city initiatives on consumer behaviour, emphasizing the role of technological infrastructure in shaping urban consumer preferences.

Table 1. A development of business integration in the context of technology and governance

Year	Development Description
Early Technological Adoption	
1950s	The advent of mainframe computers marked the beginning of business automation, streamlining processes like payroll and inventory management.
1960s	Early adoption of Management Information Systems (MIS) started, assisting businesses in data management.
1970s	Introduction of Enterprise Resource Planning (ERP) systems improved business processes, integrating various functions into a single system.
Emergence of Personal Computing and Governance Frameworks	
1980s	The rise of personal computing allowed businesses to decentralize computing power.
1980s - 1990s	Quality management principles gained prominence, influencing governance practices.
1990s	The internet became accessible to businesses, revolutionizing communication and opening new avenues for commerce.
Integration of Technology and Global Governance	
Early 2000s	Enterprise systems expanded with Customer Relationship Management (CRM) software.
Mid-2000s	The rise of social media transformed marketing and customer engagement.
Late 2000s	Cloud computing gained traction, offering scalable and flexible solutions.
2010s	Big data analytics and the Internet of Things (IoT) became integral for business insights.
	Governance frameworks adapted to address cybersecurity challenges, with regulations like GDPR coming into effect.
Accelerated Digital Transformation and Heightened Governance Focus	
Early 2020s	The COVID-19 pandemic accelerated digital transformation, emphasizing the importance of robust technology infrastructure.
Mid-2020s	Businesses increasingly prioritize sustainability, leading to governance frameworks addressing environmental, social, and governance (ESG) factors.
Late 2020s	Artificial Intelligence (AI) and machine learning play a more prominent role in business decision-making.
2020s	Continued emphasis on data privacy, with evolving governance standards and regulations.

Apart from the above factors the consumer behaviour is also depend on his sensing power and decision-making attitude.

Sensing: In context with consumer behaviour ‘sensing’ is the most important and broad subject. One cannot apply the same rule to different types of stores Cruz, A. G.(2022). For grocery stores, consumer behaviour will be different from that of consumer electronics stores. One needs to study demography, purchasing power, lifestyle, social factors, and emotional factors to sense the needs and purchasing patterns of the target customers. Sensing requires extensive market research to fulfil consumers’ needs, followed by a strong feedback mechanism .

Consumer Decision-Making:

Decision-making of consumer is the prominent aspect of consumer behaviour. In order to make decisions, consumers must first establish their basic needs, get information based on those needs, evaluate options, and finally choose the best choice. Consumer behaviour is also impacted by environmental elements including social and cultural values and economic and psychological issues Airolidi, M et al. (2022) . It involves a complex cognitive and emotional process through which consumers evaluate and select products, brands, and business Gupta, B. B.(2023),. Figure 5 depicts the process of consumer decision making:

- i. **Need Acknowledgement:** Acknowledging the actual need is the first step in decision-making. The need for recognition arises from two conditions. The first condition arises from actual needs generated in various aspects of the routine life of a consumer. The second and most important condition of need recognition by consumers for a retailer is product or brand encounter over the counter.
- ii. **Assessing Information:** For any consumer the most important exercise in the process of decision making is assessing concrete information regarding their needs. The consumer starts gathering information through various resources, viz., personal sources (*family members, friends, colleague etc*), commercial sources (*television ads, internet etc*), public sources (*newspaper, magazines, bill boards*), and experiential sources (*over the counter*). A retailer must be visible in ads (TV, print, outdoor, and online), and have a bunch of satisfied customers to be a part of the information gathering process for decision-making.

Figure 5. Customer decision process



- iii. **Alternative Evaluation:** Once, customer has assessed the information, to choose the greatest alternative and make the best decision, the customer compares and assesses that information. The customer investigates the information acquired from the search, evaluates various products and services to select from the information gathered, and compares them in accordance with their requirements and desires during this stage. Using a set of criteria that are used in accordance with consumer value preferences, alternate evaluation is carried out. Consumer value preferences may be specifically connected with product quality, pricing, or additional features and potentials. To meet the process of consumer assessment, a shop must provide a variety of goods.
- iv. **Purchase Decision:** The choice to buy is made by the consumer, and this step is seen as being the most crucial one throughout the entire process. In this stage, the choice to buy is made by the consumer, and this step is seen as being the most crucial in the entire process. The customer carefully considers all of the possibilities and comes to a decision at this point before making a final purchase. It's important to note that a purchase choice may occur from assessing the possibilities or it may be affected by a number of contextual variables, such as a successful point-of-sale marketing plan and other characteristics specific to that location like environment, ambiance etc. From a commercial perspective, sales associates at retail stores have a significant impact on how consumers decide to make purchases.
- v. **Post Purchase Conduct:** The post-purchase behaviour or assessment stage is the last step in the procedure for determining decisions. The final phase of the customer decision-making process is the post-purchase behaviour or assessment stage. Many firms have a propensity to overlook this stage because it happens after the transaction has been completed. This stage, however, can be the most significant one because it directly affects the consumer's later choice of the same product. Therefore, during this stage, the customer's experience making a purchase of a good or service is documented. Simply, if a consumer is satisfied with their purchase, they are likely to make another one. However, people are less likely to opt to buy the same goods from the same vendor or even not to buy it at all if they had a terrible experience with their transaction.

3. FUTURE RESEARCH DIRECTIONS

It was reportedly noted by Niels Bohr, "Prediction is very difficult, especially if it's about the future." In fact, making a prediction regarding the state of the consumer behaviour field in twenty years would be a fool's errand. In order to accurately predict consumer behaviour in retail and to grow your business with the primary goal of gratifying your customers, you must leverage technology like artificial intelligence (AI), machine learning algorithms, and robots for planning trials rather than for executing or analysing them Chui, K. T. (2022).

Based on the systematic review of the existing literature, several future research directions can be identified to advance our understanding of consumer behaviour in retail. These include:

1. Online and offline integration
2. Sustainability
3. Cross cultural consumer behaviour
4. Emerging technologies
5. Governance in Emerging Technologies:
6. Consumer Empowerment through Governance:
7. Consumer privacy and data security

With the emergence of new technologies Gupta, B. B., & Panigrahi, P. K. (2022). 20 years down the line, technology will play a crucial role in determining consumer behaviour in all aspect of life. Specially, with the emergence of Artificial Intelligence (AI), omnichannel technologies will be path

breaking in capturing consumers' emotional and social behaviour. Purchasing power of consumer only affects the niche market, while general tendency of consumer behaviour is affiliation that comes only after experiential buying. High inflation and glooming economy will always restrict consumers to buy more but use of technologies will make a retailer know the actual need of consumer. Thus, technological adaption is the key to success in retail in coming decades.

Online & Offline Integration: With the emergence of technologies, omnichannel technologies will help retailers to retain consumers by integrating online and offline data available to give charismatic in-store experience. As consumers increasingly engage in both online and offline shopping, there is a need to investigate how online and offline channels interact and influence each other in shaping consumer behaviour in retail. Future research can explore the impact of online and offline integration on consumer decision-making, perception, motivation, attitude, and loyalty, and how retailers can effectively manage Omnichannel strategies to enhance consumer experiences and drive business success Kalia, P., Zia, A., & Kaur, K. (2022).

Sustainability: With growing awareness and concerns about sustainability among consumers, there is a need to investigate how sustainability influences consumer behaviour in retail. Future research can explore the role of sustainability in shaping consumers' product choices, brand preferences, and purchase decisions, and how retailers can incorporate sustainability into their marketing strategies, product offerings, and corporate social responsibility initiatives to meet consumers' sustainability expectations.

Cross-Cultural Consumer Behaviour: With the increasing globalization (online) of retail, understanding cross-cultural consumer behaviour is crucial for retailers operating in diverse markets. Future research can investigate how cultural differences influence consumer behaviour in retail, including factors such as product preferences, brand choices, and store choices. Research can also explore how retailers can effectively adapt their marketing strategies to different cultural contexts to cater to the needs and expectations of consumers from different cultural backgrounds.

Emerging Technologies: Technology is still developing quickly, and its effects on customer behaviour in retail are still being seen. Future studies can look at how new technologies, such as augmented reality, virtual reality, and artificial intelligence, are influencing consumer behaviour in the retail sector. These technologies can be used by retailers to improve customer experiences, personalise marketing campaigns, and boost corporate success. Research can look into how these technologies affect consumers' perceptions, attitudes, preferences, and behaviours. The future of retail lies in technologies like omnichannel technology, artificial intelligence, virtual and augmented reality, Metaverse, retail video analytics, customer support chat bots, robotic store assistance, contactless payment, and geo-location marketing technologies. To understand the effects of these technologies on retail consumer behaviour, in-depth research is necessary.

Good Governance and Consumer Trust:

The concept of good governance, encompassing transparency, accountability, and fairness, remains relatively underexplored in the context of consumer behavior. Future research could investigate how governance practices associated with ethical considerations and good governance principles impact consumer trust in technology-driven environments.

Governance in Emerging Technologies:

With the advent of emerging technologies such as artificial intelligence, blockchain, and the Internet of Things, future research should focus on developing governance frameworks that address potential ethical concerns. Understanding how these governance frameworks shape consumer behavior and perceptions is essential for ensuring responsible and sustainable technological adoption.

Consumer Empowerment through Governance:

Exploring how governance structures can empower consumers in the digital age is a promising avenue. Research could delve into mechanisms by which regulatory frameworks and corporate governance can be designed to empower consumers in decision-making processes, ensuring a fair and transparent marketplace.

Consumer Privacy and Data Security Retail adores data. Consumer privacy and data security have grown to be major concerns as a result of the increased usage of digital technology in retail. Future studies could look into how trust, information-sharing habits, and purchase intents, as well as consumer privacy and data security concerns, affect consumer behaviour in the retail sector. Additionally, research can examine how state privacy laws affect consumer behaviour in retail and how businesses can manage customer privacy and data security issues to win over trust and create fruitful customer relationships. Future study will focus heavily on this topic because data breaches can lead to:

1. Trust Violation
2. Business lost
3. Emotional damage

Therefore, retailers will be highly affected by data security and privacy with the rise of global market and customer expectation. This aspect will have a high impact in future and researchers will have to give extensive efforts and time to find the effect of consumer privacy and data in future.

Ethical Considerations in Consumer Data Usage: It highlight ethical considerations in the use of consumer data and propose avenues for balancing technological innovation with ethical governance practices.

Resilience to Technological Disruptions: It discuss the resilience of consumer behavior to technological disruptions, calling for further research on strategies to adapt governance structures to rapid technological advancements.

4. CONCLUSION

Various elements, including as attitudes, loyalty, culture, social influence, technology, and rising trends, all have an impact on consumer behaviour in the retail industry, which is a complex and dynamic business. Understanding consumer behaviour in the retail industry is essential for retailers to develop successful marketing plans, improve customer experiences, promote brand loyalty, and increase revenue. This paper has offered a thorough analysis of consumer behaviour in retail, identifying important elements and suggesting lines of inquiry for further study. Researchers and practitioners may build strategies to fulfil the changing demands and expectations of consumers in the constantly shifting retail environment by further examining these areas. This will provide significant insights into consumer behaviour in retail.

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