Consumer Protection in Malaysian E-Commerce under the Fourth Industrial Revolution: Legal Challenges and Comparative Insights from Australia

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Abstract

This paper examines the adequacy of Malaysia's legal framework in protecting consumers engaged in e-commerce within the context of the Fourth Industrial Revolution. Using a doctrinal legal research methodology supplemented by comparative analysis of selected aspects of Australian consumer protection law, the study evaluates Malaysia's principal legal framework governing e-commerce and examines emerging challenges arising from platform-based business models, artificial intelligence, data protection, cybersecurity, and cross-border digital transactions.

The findings identify important legal gaps in Malaysia's existing framework, particularly regarding digital consumer rights, platform accountability, seller verification, consumer redress mechanisms, and the regulation of emerging digital technologies. Accordingly, the study proposes targeted legislative reforms, supported by consumer legal education, AI-powered legal assistance, and strategic collaboration to strengthen the practical implementation of consumer protection laws. Collectively, these recommendations aim to enhance consumer confidence, improve regulatory effectiveness, and strengthen Malaysia's digital consumer protection framework.

Keywords: Consumer Protection, E-Commerce, Malaysia, Consumer Rights, Platform Liability, Digital Transactions, Data Privacy, Cyber Security, Fourth Industrial Revolution, Australian Consumer Law.

1. Introduction

Given the rapid evolution of e-commerce, particularly in Malaysia, consumer protection has become an increasingly significant legal issue requiring effective coordination between government authorities, policymakers, and digital platforms. This study focuses on Malaysian consumers aged 18 to 34, as this age group forms the focus of the present legal analysis. Within this age group, particular attention is given to Generation Z, which constitutes one of the most active consumer groups engaging in online shopping and digital transactions within the context of the Fourth Industrial Revolution.[1] Consequently, this group is particularly relevant to examining the legal challenges associated with e-commerce in Malaysia.

[1] Mohd Remie Mohd Johan, Md Azalanshah Md. Syed and Hamedi Mohd Adnan, 'Digital Media and Online Buying Considerations among Generation Z in Malaysia' (2022) 17 *Jurnal Intelek* 164 <https://doi.org/10.24191/ji.v17i1.15920> accessed 30 June 2026.

Despite the existence of legislation such as the *Consumer Protection Act 1999 (Act 599)*, the *Electronic Commerce Act 2006 (Act 658)*, and the *Personal Data Protection Act 2010 (Act 709)*, concerns remain regarding the effectiveness of Malaysia's existing legal framework in addressing legal issues arising from e-commerce.[2] The Ministry of Domestic Trade and Cost of Living (KPDN) recorded 4,809 e-commerce-related complaints as of 31 July 2025.[3] This continuing volume of complaints suggests that the existing legal and enforcement framework may be insufficient to provide effective consumer protection within Malaysia's digital marketplace.

Regional developments further emphasise the need to strengthen consumer protection laws. The ASEAN High-Level Principles on Consumer Protection recognise the importance of reviewing legislative frameworks to address challenges arising from e-commerce, artificial intelligence, automation technologies, and cross-border digital transactions.[4] Similarly, the Federation of Malaysian Consumers Associations (FOMCA) has consistently highlighted consumer concerns relating to online fraud, rogue sellers, and risks associated with online shopping through digital platforms.[5] These developments demonstrate that significant legal and regulatory gaps continue to exist despite the current legislative framework.

The *Consumer Protection Act 1999* remains the primary legislation governing consumer protection in Malaysia. Although the Act was amended by the *Consumer Protection (Amendment) Act 2007* to extend its application to transactions conducted through electronic means, it was not originally designed to address the increasingly complex legal challenges arising from the Fourth Industrial Revolution, including platform liability, algorithmic marketing, data-driven business practices, and cross-border digital commerce.[6] Consequently, important questions remain regarding whether Malaysia's existing legal framework provides adequate protection for consumers in the digital economy and what lessons may be drawn from the Australian consumer protection framework.

1.1 Research Question and Objectives

This study examines whether Malaysia's existing legal framework provides adequate protection for consumers engaged in e-commerce within the context of the Fourth Industrial Revolution. It further examines whether the current legal framework adequately addresses challenges arising from digital platforms, artificial intelligence, data privacy, cybersecurity, and cross-border online transactions. It also considers how selected aspects of the

[2] 'Govt Strengthens E-Commerce Legal Framework Following over 4,800 Complaints in 2025' *The Vibes* (23 August 2025) <https://www.thevibes.com/index.php/articles/news/111925/govt-strengthens-e-commerce-legal-framework-following-over-4800-complaints-in-2025> accessed 27 June 2026.

[3] ibid.

[4] ASEAN Committee on Consumer Protection, 'ASEAN High-Level Principles on Consumer Protection' <https://aseanconsumer.org/cterms-regional-cooperation-in-asean/asean-high-level-principles-on-consumer-protection> accessed 27 June 2026.

[5] 'Rogue Sellers Prey on People's Reliance on e-Shopping' *FOMCA* (9 July 2021) <https://www.fomca.org.my/v1/index.php/fomca-di-pentas-media/fomca-di-pentas-media-2021-21/1407-rogue-sellers-prey-on-people-s-reliance-on-e-shopping> accessed 27 June 2026.

[6] Joo Xun Loh, 'The Legal Framework of E-Commerce in Malaysia' (2023) 3 *Asian Journal of Law and Policy* 183 <https://doi.org/10.33093/ajlp.2023.13> accessed 30 June 2026. .

Australian consumer protection framework may inform legal reforms to strengthen consumer protection in Malaysia.

Accordingly, this study addresses the following research question:

Does Malaysia's existing legal framework provide adequate protection for consumers in e-commerce, and what lessons can Malaysia draw from the Australian consumer protection framework to strengthen consumer protection in the digital marketplace?

To answer this research question, the study pursues the following objectives:

1. To examine the adequacy of Malaysia's legal framework governing consumer protection in e-commerce.
2. To identify legal challenges and regulatory gaps relating to platform liability, data privacy, cybersecurity, emerging technologies, and digital platforms.
3. To analyse selected aspects of the Australian consumer protection framework and identify legal reforms that may strengthen consumer protection in Malaysia.
4. To propose legal and policy recommendations for improving consumer protection, regulatory enforcement, and consumer legal empowerment within Malaysia's digital economy.

2. Research Methodology

This study adopts a doctrinal legal research methodology supplemented by comparative legal analysis. The doctrinal approach critically examines the adequacy of Malaysia's legal framework governing consumer protection in e-commerce through the analysis of primary legal sources, including legislation, judicial decisions, and relevant policy documents. Particular attention is given to the *Consumer Protection Act 1999*, the *Electronic Commerce Act 2006*, the *Personal Data Protection Act 2010*, and the *Communications and Multimedia Act 1998*.[7]

The study also undertakes a comparative analysis of selected aspects of Australia's consumer protection framework. Australia was selected because the *Australian Consumer Law* provides a comprehensive statutory consumer protection framework supported by effective compliance and enforcement mechanisms administered by the Australian Competition and Consumer Commission (ACCC).[8] Malaysia forms the primary focus of this study because the research evaluates the adequacy of its existing legal framework governing consumer protection in e-commerce. The study further focuses on Generation Z consumers because they represent one of the most active groups participating in e-commerce and digital transactions in Malaysia.[9] The comparative analysis identifies legal principles and regulatory approaches that may assist in strengthening Malaysia's consumer protection framework.

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[7] Consumer Protection Act 1999 (Act 599) (Malaysia); Electronic Commerce Act 2006 (Act 658) (Malaysia); Personal Data Protection Act 2010 (Act 709) (Malaysia); Communications and Multimedia Act 1998 (Act 588) (Malaysia).

[8] Department of the Treasury, 'About Australian Consumer Law' (12 March 2025) <https://consumer.gov.au/about/australian-consumer-law> accessed 30 June 2026; Australian Competition and Consumer Commission, 'Buying Products and Services' <https://www.accc.gov.au/consumers/buying-products-and-services> accessed 30 June 2026.

[9] Johan, Syed and Adnan (n 1).

In addition to primary legal sources, this study relies on secondary sources, including academic journal articles, government reports, policy papers, and publications issued by consumer protection organisations. Publications issued by the Federation of Malaysian Consumers Associations (FOMCA) were consulted because they provide practical insight into consumer complaints and emerging issues relating to e-commerce in Malaysia.[10] By combining doctrinal and comparative legal research, this study critically evaluates Malaysia's existing legal framework, identifies legal gaps, and proposes legal reforms to strengthen consumer protection and improve access to justice within the digital economy.

3. Malaysian Legal Framework

This section examines Malaysia's legal framework governing consumer protection in e-commerce within the context of the Fourth Industrial Revolution. It analyses the principal legislation regulating digital transactions and evaluates whether the existing framework adequately addresses emerging challenges, including platform liability, data privacy, cybersecurity, artificial intelligence, and cross-border digital transactions.

Malaysia has developed a comprehensive legal framework for consumer protection in e-commerce, although significant legal gaps remain. Although the Malaysian *Federal Constitution* does not expressly regulate e-commerce, Article 8 guarantees equality before the law and equal protection of the law.[11] This principle supports the equal application of consumer protection laws to both traditional and online transactions.

The *Consumer Protection Act 1999* was amended in 2008 to extend its application to electronic transactions under section 2.[12] Sections 10 and 12 prohibit false or misleading representations relating to goods, services, and prices. These provisions provide important safeguards against unfair commercial practices in e-commerce.[13] However, the Act was originally enacted to regulate conventional consumer transactions rather than the increasingly complex digital marketplace. It does not clearly define the legal responsibilities of digital platforms acting as intermediaries between consumers and online sellers, particularly where disputes arise through online marketplaces. Nor does it specifically address emerging issues such as algorithm-driven advertising, personalised pricing, automated decision-making, or other data-driven commercial practices. Consequently, consumers may encounter practical difficulties in obtaining effective legal remedies where disputes involve digital platforms and third-party sellers. These limitations demonstrate the need for further legislative reform to ensure that the *Consumer Protection Act 1999* remains effective in protecting consumers within Malaysia's evolving digital economy.

The *Consumer Protection Act 1999* is complemented by other statutes that strengthen Malaysia's legal framework for e-commerce. For instance, the *Communications and Multimedia Act 1998*, which regulates online communications. Section 211(1) of the Act prohibits the provision of false, offensive, or misleading content, thereby helping reduce online fraud and misleading advertising.[14] Nevertheless, the Act primarily regulates online

[10] 'Rogue Sellers Prey on People's Reliance on e-Shopping' (n 5).
[11] Federal Constitution (Malaysia), art 8(1)
[12] Consumer Protection Act 1999 (Act 599) (Malaysia), s 2
[13] Consumer Protection Act 1999 (Act 599) (Malaysia), ss 10–12
[14] Communications and Multimedia Act 1998 (Act 588) (Malaysia), s 211(1)

content rather than consumer transactions and does not establish comprehensive obligations relating to consumer protection, platform accountability, or dispute resolution in e-commerce. Consequently, its role in protecting consumers remains supportive rather than comprehensive.

Similarly, the *Personal Data Protection Act 2010* supports consumer protection by requiring data users to comply with the Personal Data Protection Principles under section 5(1).[15] These principles promote accountability, transparency, and the responsible handling of consumers' personal information. However, the Act primarily regulates the processing of personal data and does not specifically address privacy challenges arising from emerging technologies, such as artificial intelligence, or the growing complexity of cross-border data transfers. As digital commerce increasingly relies on data-driven technologies, these limitations may reduce the effectiveness of the Act in protecting consumers' personal information. Consequently, continuous legislative reform is required to ensure that consumer privacy remains adequately protected within Malaysia's evolving digital economy.

The *Electronic Commerce Act 2006* recognises electronic messages, electronic contracts, and digital signatures, thereby facilitating legally valid electronic transactions[16]. However, its primary function is to recognise the legal validity of electronic communications rather than to regulate consumer rights or provide remedies in e-commerce transactions.[17] Issues relating to platform liability, unfair commercial practices, and consumer redress remain governed by other legislation. Therefore, the *Electronic Commerce Act 2006* alone is insufficient to provide comprehensive consumer protection for digital transactions and must operate alongside other consumer protection legislation.

The *Contracts Act 1950* governs the formation and enforcement of contracts, including offer, acceptance, consideration, and contractual obligations.[18] Although these principles remain applicable to electronic transactions, the Act does not specifically address modern forms of electronic contracting. Likewise, the *Sale of Goods Act 1957* governs contracts for the sale of goods but does not expressly regulate online marketplaces or define the legal responsibilities of digital platforms acting as intermediaries.[19] Consequently, these Acts provide limited guidance on platform liability and consumer remedies in e-commerce disputes.

In addition, section 420 of the *Penal Code* provides an important criminal mechanism for addressing cheating and fraudulent conduct.[20] Its provisions may also apply to fraudulent activities committed through digital platforms, depending on the facts of each case. However, criminal sanctions do not provide consumers with direct civil remedies or clarify the legal responsibilities of digital platforms. Consequently, criminal law alone is insufficient to address the legal challenges arising from e-commerce within the context of the Fourth Industrial Revolution.

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[15] Personal Data Protection Act 2010 (Act 709) (Malaysia), s 5(1)

[16] Amirah Khadijah Roslan and others, 'Legal Protection of E-Consumers in Malaysia' (2022) 7 *International Journal of Law, Government and Communication* 223 <https://doi.org/10.35631/IJLGC.729016> accessed 27 June 2026.

[17] ibid.

[18] Contracts Act 1950 (Act 136)

[19] Sale of Goods Act 1957 (Act 382)

[20] Penal Code (Malaysia) (Act 574), s 420

From a judicial perspective, *A & M Beauty Wellness Sdn Bhd v Shopee Mobile Malaysia Sdn Bhd* provides important guidance on the legal position of digital platforms within Malaysia's e-commerce framework.[21] The dispute concerned allegations that products bearing the plaintiff's registered trade mark were sold on Shopee's online marketplace without authorisation. The principal issue before the High Court was whether Shopee, as the operator of an online marketplace, could be held legally responsible for the activities of independent third-party sellers.[22]

The High Court dismissed the application and held that Shopee operated as an intermediary facilitating transactions between buyers and independent sellers rather than acting as the seller of the products.[23] The Court also observed that Shopee had established procedures for reporting complaints relating to intellectual property infringement, reinforcing its role as a platform operator rather than a direct seller.[24]

Although the dispute primarily concerned trademark infringement rather than consumer protection, the decision has broader implications for platform liability in Malaysia's digital economy. It illustrates the absence of clear statutory rules defining when e-commerce platforms may be held legally responsible for the conduct of independent third-party sellers. Consequently, greater legislative clarity is needed to balance platform accountability with the practical operation of digital marketplaces while ensuring effective consumer protection within the context of the Fourth Industrial Revolution.

4. Comparative Analysis of Consumer Protection in Malaysia and Australia

The United Nations Guidelines for Consumer Protection (UNGCP) provide an internationally recognised benchmark for evaluating national consumer protection frameworks in the digital economy.[25] The Guidelines emphasise that consumers engaging in electronic commerce should receive a level of protection equivalent to that available in traditional commerce.[26] They also promote transparency, fair business practices, effective consumer redress, consumer education, and international cooperation in addressing cross-border consumer disputes.[27] These principles provide an appropriate benchmark for assessing the adequacy of Malaysia's legal framework governing consumer protection in e-commerce.

Unlike Malaysia, which regulates e-commerce through several separate statutes, Australia has established a comprehensive legal framework through the *Australian Consumer Law (ACL),* providing a uniform system of consumer protection across all Australian states and territories.[28] The ACL prohibits misleading or deceptive conduct, establishes statutory consumer guarantees, and provides consumers with clear legal remedies where traders fail

[21] *A & M Beauty Wellness Sdn Bhd v Shopee Mobile Malaysia Sdn Bhd (berniaga sebagai Shopee Malaysia) [2021] MLJU 65 (HC).*
[22] ibid.
[23] ibid.
[24] ibid.
[25] UNGA Res 70/186 (22 December 2015) UN Doc A/RES/70/186, annex.
[26] ibid.
[27] ibid.
[28] Department of the Treasury, 'About Australian Consumer Law' (n 8).

to comply with their legal obligations.[29] The Australian Competition and Consumer Commission (ACCC) supports this framework by monitoring compliance and enforcing consumer protection laws. This integrated approach provides greater legal certainty than Malaysia's fragmented legislative framework, enabling consumers and businesses to understand their respective rights and obligations more clearly.

By comparison, Malaysia regulates consumer protection in e-commerce through multiple statutes, including the *Consumer Protection Act 1999*, the *Personal Data Protection Act 2010*, the *Electronic Commerce Act 2006*, the *Communications and Multimedia Act 1998*, and other related legislation. Although this legislative framework provides an important legal foundation for regulating digital transactions, it remains less integrated than the Australian model. Consequently, disputes involving platform liability, consumer remedies, personal data protection, and cross-border digital transactions may require the simultaneous application of multiple statutes, potentially creating greater legal complexity for consumers seeking effective remedies.

Compared with Malaysia, Australia adopts a stronger institutional approach to consumer awareness and regulatory guidance. Through the Australian Competition and Consumer Commission (ACCC), consumers are provided with practical information regarding their rights under the *Australian Consumer Law*, while businesses receive guidance on their rights, responsibilities, and compliance with consumer law.[30] This contributes to greater public confidence in e-commerce and encourages compliance by traders. While Malaysia has undertaken various consumer awareness initiatives through government agencies and organisations such as the Federation of Malaysian Consumers Associations (FOMCA), further efforts may be required to strengthen consumers' understanding of their rights in digital transactions and the avenues available for obtaining effective legal redress.

This comparative analysis demonstrates that Malaysia is not lacking in legislation but rather in the coherence and coordination of its regulatory framework. Rather than introducing entirely new legislation, Malaysia may strengthen consumer protection by adopting selected aspects of the Australian model, including clearer provisions on platform liability, more effective consumer redress mechanisms, stronger regulatory coordination, and enhanced consumer education. Such reforms would improve legal certainty, strengthen consumer confidence, and better equip Malaysia's legal framework to address the legal challenges arising from e-commerce in the context of the Fourth Industrial Revolution.

5. Legal Challenges of Consumer Protection under the Fourth Industrial Revolution

The Fourth Industrial Revolution has fundamentally transformed the nature of e-commerce by integrating artificial intelligence, automated decision-making, blockchain technology, smart contracts, and large-scale data processing into digital commercial activities.[31] Unlike

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[29] ibid.

[30] Australian Competition and Consumer Commission, ‘Buying Products and Services’ <https://www.accc.gov.au/consumers/buying-products-and-services> accessed 28 June 2026.

[31] Aaron M French, JP Shim, Kai R Larsen, Marten Risius and Hemant Jain, ‘The 4th Industrial Revolution Powered by the Integration of AI, Blockchain, and 5G’ (2021) 49 *Communications of the Association for Information Systems* 266 <https://doi.org/10.17705/1CAIS.04910> accessed 28 June 2026; Judy Yueh Ling Song and Esther Tan, ‘Beyond Traditional Contracts: The Legal Recognition and Challenges of Smart Contracts in

earlier stages of electronic commerce, where consumer transactions mainly involved the online purchase of goods and services, digital platforms now rely extensively on data-driven technologies that influence consumer behaviour, personalise commercial offers, automate contractual processes, and facilitate cross-border digital transactions.[32] These technological developments create legal challenges that extend beyond the scope of traditional consumer protection laws, particularly in relation to transparency, accountability, data privacy, cybersecurity, platform liability, and effective consumer redress. Consequently, the adequacy of Malaysia's legal framework should be evaluated not only according to its ability to regulate conventional e-commerce but also according to its capacity to respond to the increasingly complex legal challenges arising from the Fourth Industrial Revolution.

5.1 Data Privacy and Cybersecurity

Data privacy and cybersecurity have become fundamental components of consumer protection under the Fourth Industrial Revolution, where digital commerce increasingly depends on the large-scale collection, processing, storage, and transfer of consumers' personal data. Consequently, effective legal protection is no longer limited to regulating commercial transactions but also extends to safeguarding consumers' personal information and ensuring the security of digital systems.

In Malaysia, the *Personal Data Protection Act 2010* (PDPA) constitutes the principal legislation governing the processing of personal data in commercial transactions. The Act establishes several important safeguards through the Personal Data Protection Principles, including the General Principle under section 6, which requires the consent of the data subject before personal data may be processed, subject to the statutory exceptions provided by the Act.[33] In addition, section 8 restricts the disclosure of personal data without the consent of the data subject, except in circumstances permitted by law.[34] These provisions provide an important legal foundation for protecting consumers' personal information and promoting accountability among data users.

Nevertheless, the PDPA continues to present several limitations when applied to the increasingly complex digital environment. In particular, section 2(2) limits the territorial application of the Act to specified circumstances connected with Malaysia.[35] As e-commerce increasingly involves cross-border digital platforms and cloud-based data processing, this territorial limitation may reduce the effectiveness of legal protection where consumers' personal data are processed or stored outside Malaysia. Consequently, consumers may encounter practical difficulties in obtaining effective legal protection when personal data are transferred across multiple jurisdictions, demonstrating the need for continuous legislative reform to address cross-border data governance.

Cybersecurity presents a similar legal challenge. Before the enactment of the *Cyber Security Act 2024*, Malaysia primarily relied on separate statutes, including the *Computer Crimes Act*

Malaysia and Singapore' (2024) 3 *Journal of Law, Market & Innovation* 323 <https://doi.org/10.13135/2785-7867/11334> accessed 28 June 2026.

[32] French and others (n 31).

[33] Personal Data Protection Act 2010 (Act 709), s 6

[34] Personal Data Protection Act 2010 (Act 709), s 8

[35] Personal Data Protection Act 2010 (Act 709), s 2(2)

1997[36] and the *Communications and Multimedia Act 1998*, to regulate cyber-related activities.[37] Although these statutes provide important legal protection against various cyber offences, they regulate different aspects of cybersecurity rather than establishing a comprehensive framework specifically designed to protect digital consumers. The *Cyber Security Act 2024* represents an important legislative development towards strengthening Malaysia's national cybersecurity framework.[38] Nevertheless, its long-term effectiveness will depend on effective implementation, regulatory coordination, and consistent enforcement.

Overall, Malaysia has established an important legal framework for protecting personal data and cybersecurity. However, the rapid expansion of cross-border digital commerce under the Fourth Industrial Revolution requires continuous legislative development to ensure that consumer protection remains effective within an increasingly interconnected digital environment.

5.2 Artificial Intelligence and Algorithmic Decision-Making

Artificial intelligence (AI) has become an increasingly important component of modern e-commerce by enabling personalised advertising, automated decision-making, and tailored product recommendations based on consumer behaviour.[39] These technologies allow digital platforms to analyse consumer data, personalise commercial offers, and automate various aspects of online transactions.[40] While these technological developments improve commercial efficiency and consumer convenience, they also raise important legal concerns relating to transparency, accountability, fairness, and consumer autonomy.

From a consumer protection perspective, AI-driven decision-making may influence consumers without their knowledge by determining the advertisements they receive, the products displayed to them, or the prices offered through automated systems.[41] In addition, businesses increasingly rely on consumer data to identify purchasing preferences and personalise commercial practices.[42] The growing use of these technologies raises significant legal concerns regarding transparency, informed consent, and the accountability of businesses deploying artificial intelligence in digital commerce.

Malaysia's current legal framework does not specifically regulate artificial intelligence, algorithmic profiling, or automated decision-making within consumer transactions. Although the *Personal Data Protection Act 2010* regulates the processing of personal data, it does not contain specific provisions governing AI-driven decision-making or provide consumers with clear legal safeguards against the risks associated with AI-based commercial practices.[43] Likewise, the *Consumer Protection Act 1999* prohibits misleading representations and unfair

[36] Computer Crimes Act 1997 (Act 563)
[37] Communications and Multimedia Act 1998 (Act 588) (n 7).
[38] Cyber Security Act 2024 (Act 854) (Malaysia), National Cyber Security Agency (NACSA)
[39] Aditi M Jain and Ayush Jain, 'AI Based Content Creation and Product Recommendation Applications in E-Commerce : An Ethical Overview' (2025) 11 *International Journal of Scientific Research in Computer Science, Engineering and Information Technology* 3720 <https://doi.org/10.32628/CSEIT2410414> accessed 28 June 2026.
[40] ibid.
[41] ibid.
[42] ibid.
[43] Personal Data Protection Act 2010 (Act 709) (Malaysia) (n 7).

commercial practices but does not expressly address AI-driven advertising, personalised pricing, or automated commercial decision-making.[44] Consequently, significant legal uncertainty remains regarding the extent to which existing legislation adequately protects consumers against emerging forms of digital manipulation.

By comparison, the European Union has adopted a more proactive regulatory approach through the Artificial Intelligence Act, which establishes a risk-based framework governing the development and use of artificial intelligence systems.[45] Although Malaysia is not required to adopt an identical regulatory model, the European approach demonstrates the importance of developing legal safeguards that promote transparency, accountability, and responsible innovation. As artificial intelligence continues to transform digital commerce under the Fourth Industrial Revolution, Malaysia may need to consider legislative reforms that provide clearer regulation of AI-driven commercial practices while maintaining an appropriate balance between technological innovation and consumer protection.

5.3 Blockchain and Smart Contracts

Blockchain technology and smart contracts have transformed e-commerce by facilitating secure, automated, and decentralised digital transactions. Smart contracts automatically execute contractual obligations once predetermined conditions are met, while blockchain technology provides secure and transparent records of digital transactions.[46] These technologies improve transactional efficiency, reduce reliance on intermediaries, and facilitate secure digital transactions. However, they also create legal challenges concerning contractual validity, legal accountability, dispute resolution, and consumer protection.

Malaysia's *Electronic Commerce Act 2006* provides legal recognition for electronic messages and electronic contracts, thereby supporting the legal validity of digital transactions.[47] However, although the Act recognises electronic transactions, it does not expressly regulate legal issues arising from blockchain technology or smart contracts, including automated contractual performance and decentralised digital transactions. Likewise, the *Consumer Protection Act 1999* and the *Contracts Act 1950* neither expressly address disputes involving self-executing smart contracts nor clearly define the legal responsibilities of parties operating blockchain-based commercial systems.[48]

The absence of specific legislative provisions creates legal uncertainty where disputes arise from automated transactions executed without direct human intervention. Questions relating to contractual interpretation, the allocation of liability where coding errors or system failures occur, consumer remedies, and the respective responsibilities of technology providers, digital platforms and traders remain largely unresolved under Malaysia's current legal framework. This legal uncertainty may reduce consumers' ability to understand their legal rights and obtain effective remedies in situations where disputes arise from blockchain-based transactions. As blockchain technology becomes increasingly integrated

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[44] Consumer Protection Act 1999 (Act 599) (Malaysia) (n 7).
[45] European Commission, 'AI Act | Shaping Europe's Digital Future' (19 June 2026) <https://digital-strategy.ec.europa.eu/en/policies/regulatory-framework-ai> accessed 30 June 2026.
[46] Song and Tan (n 31).
[47] Electronic Commerce Act 2006 (Act 658) (Malaysia) (n 7).
[48] Consumer Protection Act 1999 (Act 599) (Malaysia) (n 7).

into digital commerce under the Fourth Industrial Revolution, these legal challenges are likely to become more significant.

Comparative legal developments demonstrate an increasing recognition of the need to adapt legal frameworks to emerging technologies. Consistent with the principles of the United Nations Guidelines for Consumer Protection (UNGCP), Malaysia would benefit from reviewing its existing legislation to ensure that emerging digital technologies are supported by effective consumer protection, legal certainty, and appropriate regulatory safeguards.[49]

5.4 Critical Evaluation

The Fourth Industrial Revolution has transformed the legal landscape of consumer protection by introducing technologies that extend beyond traditional electronic commerce. The integration of artificial intelligence, blockchain technology, smart contracts, big data analytics, and digital identity systems into digital commerce has created new legal challenges relating to transparency, accountability, data governance, platform responsibility, and consumer redress. The foregoing analysis demonstrates that effective consumer protection now requires legal frameworks capable of regulating not only digital transactions but also the technologies that influence consumer behaviour and commercial decision-making.

Malaysia has established an important legislative foundation through statutes such as the *Consumer Protection Act 1999*, the *Personal Data Protection Act 2010*, the *Electronic Commerce Act 2006*, and the *Cyber Security Act 2024*.[50] Nevertheless, the foregoing analysis demonstrates that these statutes regulate different aspects of the digital environment without comprehensively addressing several emerging legal challenges associated with the Fourth Industrial Revolution. In particular, clearer legislative provisions are needed to regulate artificial intelligence, algorithmic decision-making, blockchain-based transactions, smart contracts, and the increasing use of big data and digital identity in e-commerce.

Accordingly, future legislative reform should focus not only on responding to technological innovation but also on ensuring that consumer protection remains effective within an increasingly digital and interconnected economy. Such reforms would strengthen legal certainty, enhance consumer confidence, and support the sustainable development of Malaysia's digital economy while safeguarding consumers' legal rights.

6. Recommendations for Legal Reform and Consumer Empowerment

The foregoing analysis demonstrates that Malaysia has established an important legal framework governing consumer protection in e-commerce through legislation such as the *Consumer Protection Act 1999*, the *Personal Data Protection Act 2010*, the *Electronic Commerce Act 2006*, the *Communications and Multimedia Act 1998*, and the *Cyber Security Act 2024*. [51] Nevertheless, several legal and regulatory gaps continue to limit the

[49] UNCTAD (n 25).
[50] Consumer Protection Act 1999 (Act 599) (Malaysia) (n 7); Personal Data Protection Act 2010 (Act 709) (Malaysia); Electronic Commerce Act 2006 (Act 658) (Malaysia) (n 7); Cyber Security Act 2024 (Act 854) (Malaysia) (n 38).
[51] ibid.

effectiveness of consumer protection within the rapidly evolving digital economy. These include the absence of clear statutory recognition of digital consumer rights, limited regulation of platform liability, insufficient safeguards for artificial intelligence and emerging technologies, fragmented regulatory coordination, and challenges relating to cross-border consumer disputes.

Accordingly, this section proposes legal reforms to strengthen Malaysia's consumer protection framework in the context of the Fourth Industrial Revolution. The recommendations are derived from the analysis undertaken in this study and aim to improve legal certainty, strengthen consumer confidence, enhance regulatory effectiveness, and promote greater accountability within the digital marketplace. In addition to legislative reform, this section recommends measures centred on consumer empowerment to improve legal awareness, facilitate access to justice, and support the sustainable development of Malaysia's digital economy.

6.1 Legislative Reforms

6.1.1 Statutory Recognition of Digital Consumer Rights

The *Consumer Protection Act 1999* should be amended to expressly recognise the legal rights of digital consumers within the e-commerce environment.[52] A new statutory provision should be introduced to expressly define the core rights of digital consumers engaging in digital transactions, including the right to transparent commercial information, protection against misleading digital practices, fair complaint-handling procedures, effective consumer redress, protection of personal data, and access to remedies where transactions involve digital platforms or cross-border sellers.

This reform would strengthen legal certainty by clearly defining the rights of digital consumers and the corresponding obligations of online traders and digital platforms. It would also provide a stronger legal basis for the interpretation and enforcement of consumer protection law as digital commerce continues to evolve through platform-based marketplaces, artificial intelligence, automated decision-making, and other emerging technologies.

Furthermore, this recommendation addresses the legal gap identified in the foregoing analysis. Although the *Consumer Protection Act 1999* extends to electronic transactions, it does not expressly recognise the distinct legal rights of digital consumers or provide a comprehensive statutory framework capable of responding to the legal challenges arising from the Fourth Industrial Revolution.[53] Express statutory recognition of digital consumer rights would therefore strengthen Malaysia's consumer protection framework, promote greater consistency in judicial interpretation and regulatory enforcement, and enhance consumer confidence in the digital economy.

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[52] Consumer Protection Act 1999 (Act 599) (Malaysia) (n 7).
[53] ibid.

6.1.2 Statutory Platform Liability Framework

Malaysia should introduce clear statutory provisions defining the legal responsibilities of e-commerce platforms operating digital marketplaces. The legislation should distinguish between platforms acting solely as intermediaries and those exercising significant control over transactions, including product listings, payment processing, advertising, recommendations, or fulfilment services. Where platforms play an active role in facilitating commercial transactions, they should be subject to clearly defined legal duties to protect consumers.

Such reform would provide greater legal certainty by specifying the circumstances in which digital platforms may be held legally responsible for consumer harm arising from fraudulent sellers, misleading commercial practices, or failures to comply with consumer protection obligations. It would also reduce uncertainty regarding the allocation of legal responsibility among digital platforms, traders, and consumers while promoting greater consistency in judicial interpretation and regulatory enforcement.

This recommendation addresses the legal uncertainty identified in the foregoing analysis of *A & M Beauty Wellness Sdn Bhd v Shopee Mobile Malaysia Sdn Bhd (Berniaga Sebagai Shopee Malaysia)*.[54] The case demonstrates that the absence of clear statutory provisions governing platform liability creates uncertainty regarding the legal responsibilities of digital marketplace operators. Introducing a dedicated statutory framework would therefore strengthen consumer protection by ensuring that legal responsibility reflects the increasingly active role of digital platforms within Malaysia's evolving digital economy.

6.1.3 Mandatory Seller Verification

Malaysia should introduce mandatory seller verification requirements for all commercial sellers operating on e-commerce platforms. Digital platforms should be placed under a statutory obligation to verify the identity and essential business information of commercial sellers before permitting them to offer goods or services through online marketplaces. Verification should include, where appropriate, business registration details, identity verification, and relevant contact information to improve seller accountability and traceability.

This reform would reduce the risk of fraudulent or anonymous sellers exploiting digital platforms to deceive consumers while enabling more effective regulatory enforcement. It would also assist the relevant authorities in identifying non-compliant traders and taking appropriate legal action whenever consumer protection laws have been breached.

Mandatory seller verification would further strengthen consumer confidence by improving transparency and accountability within the digital marketplace while reducing the risk of scams, counterfeit goods, and misleading commercial practices. As Malaysia's e-commerce sector continues to expand, statutory seller verification would provide an important

[54] *A & M Beauty Wellness Sdn Bhd v Shopee Mobile Malaysia Sdn Bhd (berniaga sebagai Shopee Malaysia)* (n 21).

preventive safeguard that complements the existing consumer protection framework and enhances the integrity of digital marketplaces.

6.1.4 Statutory Complaint-Handling Duties for Digital Platforms

Malaysia should introduce handling duties compliant to Malaysia’s existing statutes on e-commerce, requiring e-commerce platforms to establish transparent, accessible, and effective internal complaint mechanisms. The legislation should require these platforms to acknowledge consumer complaints within a specified timeframe, provide written reasons for their decisions, inform consumers of the available avenues for redress, maintain complaint records, and cooperate with the relevant regulatory authorities where complaints involve fraud or breaches of consumer protection legislation.

This recommendation addresses the legal gap identified in the foregoing analysis by promoting greater accountability and transparency in the handling of consumer complaints. Introducing statutory complaint-handling duties would strengthen legal certainty by ensuring that digital platforms comply with consistent minimum standards when handling consumer complaints.

Establishing legally enforceable complaint-handling duties would improve platform accountability, facilitate regulatory oversight, and provide consumers with more effective and timely access to redress. It would also enhance public confidence in Malaysia's digital marketplace by ensuring that consumer complaints are managed through transparent, fair, and legally accountable procedures.

6.1.5 Cross-Border Consumer Redress Mechanism

Malaysia should establish a statutory cross-border consumer redress mechanism to strengthen consumer protection in international e-commerce transactions. The proposed framework should enable Malaysian consumers to submit complaints arising from cross-border online purchases through a single, accessible mechanism while facilitating cooperation between the relevant Malaysian authorities and their foreign counterparts where disputes involve overseas traders.

The proposed legislation should also require e-commerce platforms facilitating cross-border transactions to disclose the identity and business location of foreign sellers, provide clear information on the applicable complaint procedures, and cooperate with the relevant authorities where consumer disputes arise. These statutory obligations would improve transparency, reduce practical barriers to obtaining redress, and strengthen accountability in cross-border digital transactions.

Establishing a dedicated statutory mechanism would provide consumers with clearer legal procedures for pursuing remedies against foreign traders, reduce uncertainty in cross-border disputes, and increase consumer confidence when engaging in international e-commerce. Such reform would better equip Malaysia's consumer protection framework to respond to the increasingly global nature of digital commerce under the Fourth Industrial Revolution.

6.1.6 Strengthening Data Protection

Malaysia should amend the *Personal Data Protection Act 2010* to introduce stronger statutory safeguards governing the collection, processing, storage, and cross-border transfer of consumers' personal data within the digital economy. The legislation should establish enhanced obligations for businesses engaging in e-commerce to ensure greater transparency regarding data collection practices, obtain meaningful consumer consent, implement appropriate security measures, and provide consumers with accessible mechanisms to exercise their data protection rights.

The proposed amendment should also provide clearer legal requirements governing cross-border transfers of personal data to ensure that consumers' information receives an equivalent level of protection when processed outside Malaysia. Strengthening these statutory safeguards would improve accountability among digital businesses while reducing the risk of data misuse, unauthorised disclosure, and privacy-related harm.

Such reform would reinforce consumer confidence in digital commerce by ensuring that personal data is protected throughout the entire lifecycle of online transactions. It would also enable Malaysia's data protection framework to respond more effectively to the increasing volume and complexity of personal data processing associated with e-commerce under the Fourth Industrial Revolution.

6.1.7 Statutory Rules on Algorithmic Transparency

Malaysia should introduce statutory rules governing the use of artificial intelligence and automated decision-making systems in e-commerce. The legislation should require businesses to clearly disclose when significant commercial decisions affecting consumers, such as personalised pricing or targeted recommendations, are generated or materially influenced by automated systems. Consumers should also have the right to receive clear and meaningful information regarding the use of such systems where they significantly affect consumer transactions.

The proposed framework should further require businesses to maintain sufficient records demonstrating that algorithmic systems operate in a fair, transparent, and non-discriminatory manner. Compliance with these statutory obligations should be subject to regulatory oversight by the relevant authorities, enabling effective investigation of complaints involving unfair or misleading AI-driven commercial practices.

Introducing statutory rules on algorithmic transparency would establish clearer legal standards governing the use of artificial intelligence in digital commerce, reduce legal uncertainty, and strengthen accountability among businesses deploying automated decision-making systems. Such reform would ensure that technological innovation develops consistently with Malaysia's consumer protection framework while safeguarding consumers against emerging forms of digital harm.

6.1.8 Institutional Coordination Framework

To strengthen the enforcement of digital consumer protection laws, Malaysia should establish a formal institutional coordination framework involving the relevant regulatory authorities and consumer organisations, including the Ministry of Domestic Trade and Cost of Living (KPDN), the Malaysian Communications and Multimedia Commission (MCMC), the Personal Data Protection Department (PDPD), the Tribunal for Consumer Claims Malaysia (TCCM), and the Federation of Malaysian Consumers Associations (FOMCA). The framework should clearly define the respective roles and responsibilities of each institution while establishing formal procedures for information sharing, complaint referrals, coordinated investigations, and joint enforcement actions relating to digital consumer disputes.

The framework should also require participating authorities to adopt common operational guidelines, establish regular coordination mechanisms, and exchange relevant information to ensure a consistent and effective regulatory response to emerging challenges in e-commerce. These measures would reduce regulatory fragmentation, minimise overlapping responsibilities, and promote greater consistency in the enforcement of consumer protection laws.

Establishing a formal institutional coordination framework would enhance the effectiveness of Malaysia's consumer protection regime by enabling public authorities and consumer organisations to respond to digital consumer complaints through a more integrated and coordinated approach. It would also facilitate the effective implementation of the legislative reforms proposed in this study and contribute to a more coherent and accountable system of digital consumer protection.

6.2 Implementing Legal Reforms through Consumer Legal Empowerment

Legislative reform alone cannot fully address the legal challenges facing digital consumers in the Fourth Industrial Revolution. While the statutory reforms proposed in this study would strengthen Malaysia's consumer protection framework, their effectiveness ultimately depends on consumers' ability to understand, exercise, and enforce their legal rights. Without adequate legal awareness, accessible legal information, and effective institutional support, consumers may be unable to benefit fully from the protections provided by law.

Accordingly, legal empowerment should complement legislative reform by improving consumer legal literacy, facilitating access to legal information, and strengthening cooperation among public authorities, consumer organisations and digital platforms. Together, these measures would support the effective implementation of the proposed reforms and contribute to a more consumer-centred and effective system of digital consumer protection.

6.2.1 Consumer Legal Education

To support the effective implementation of the legislative reforms proposed in this study, Malaysia should strengthen consumer legal education through structured national awareness programmes explaining statutory consumer rights, complaint mechanisms, data protection obligations, and safeguards against online fraud, together with the additional protections introduced by the proposed reforms.

Consumer education should adopt practical and interactive approaches, including simulated fraud scenarios, real case studies, and multilingual educational materials that reflect Malaysia's diverse society. These initiatives would enable consumers to understand and effectively exercise their legal rights while making greater use of the enhanced consumer protection measures proposed in this study, thereby improving the practical implementation of Malaysia's consumer protection framework.

Australia's Aboriginal Consumers Education Plan illustrates the importance of tailoring consumer education to the cultural and linguistic needs of different communities through targeted and culturally appropriate consumer education initiatives.[55] Although Malaysia's social context differs, adopting similarly inclusive educational strategies would strengthen legal awareness and facilitate the effective implementation of the legislative reforms proposed in this study.

6.2.2 AI-Powered Legal Assistance

To complement the legislative reforms proposed in this study, lawmakers of Malaysia should establish AI-powered legal assistance platforms to provide consumers with accessible and reliable guidance on their statutory rights, complaint procedures, data protection obligations, and the consumer remedies available under Malaysia's consumer protection laws. These platforms should support consumers in understanding and exercising the additional legal protections introduced through the proposed reforms while directing them to the appropriate authorities where further assistance is required.

AI-powered legal assistance should be designed to improve access to legal information rather than replace professional legal advice. Accordingly, such platforms should operate under appropriate human oversight and be developed consistently with Malaysia's AI governance objectives as set out in the *Malaysia National Artificial Intelligence Roadmap 2021–2025 (AI-RMAP)*.[56] Appropriate safeguards should be implemented to promote transparency, reliability, and the protection of consumers' personal data. These measures would support the effective implementation of the proposed legal reforms while improving access to justice within Malaysia's digital consumer protection framework.

6.2.3 Strategic Collaboration

To support the effective implementation of the legislative reforms proposed in this study, Malaysia should strengthen strategic collaboration between public authorities, consumer organisations, educational institutions, and digital platforms. Such collaboration should include joint consumer education initiatives, coordinated public awareness campaigns, and the dissemination of reliable legal information to improve consumers' understanding of the statutory rights and remedies provided under the proposed reforms.

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[55] ‘‘Aboriginal Consumers Education Plan 12 Principles - Consumer Protection - LGIRS’ (18 November 2024) <https://www.consumerprotection.wa.gov.au/publications/aboriginal-consumers-education-plan-12-principles> accessed 30 June 2026.

[56] Ministry of Science, Technology and Innovation (MOSTI), Malaysia National Artificial Intelligence Roadmap 2021–2025 (AI-RMAP) (MOSTI 2021) <https://mastic.mosti.gov.my/publication/artificial-intelligence-roadmap-2021-2025/> accessed 30 June 2026.

Institutionalising these collaborative efforts would strengthen the implementation of Malaysia's consumer protection framework by promoting consistent consumer education, improving public awareness of legal rights, and supporting the effective enforcement of consumer protection laws. It would also facilitate information sharing, reduce regulatory fragmentation and the duplication of public awareness initiatives, and promote a more coordinated and consumer-centred approach to digital consumer protection.

6.2.4 Alignment with the Sustainable Development Goals

The legislative reforms proposed in this study support the achievement of several United Nations Sustainable Development Goals (SDGs). In particular, the proposed statutory recognition of digital consumer rights, strengthened platform accountability, mandatory seller verification, improved domestic and cross-border consumer redress mechanisms, enhanced data protection, greater algorithmic transparency, and stronger institutional coordination contribute to SDG 16, which promotes access to justice, effective institutions, and the rule of law.[57]

These reforms also support SDG 1 by reducing consumers' exposure to financial loss arising from online fraud and unfair commercial practices, while contributing to SDG 8 by strengthening consumer confidence, promoting secure digital commerce, and supporting sustainable and inclusive economic growth.[58] Accordingly, the proposed legal framework not only strengthens Malaysia's consumer protection regime but also contributes to the country's broader sustainable development objectives within the digital economy.

7. Conclusion

This study demonstrates that Malaysia's existing consumer protection framework provides an important legal foundation for e-commerce but requires further legislative reform to address the legal challenges arising from the Fourth Industrial Revolution. Accordingly, this study proposes clearer statutory recognition of digital consumer rights, strengthened platform accountability, mandatory seller verification, improved consumer redress mechanisms, enhanced data protection, greater algorithmic transparency, and stronger institutional coordination. It further argues that these reforms should be supported through consumer legal education, AI-powered legal assistance, and strategic collaboration to ensure their effective implementation. Collectively, these recommendations provide a coherent framework for strengthening Malaysia's digital consumer protection regime, improving consumer confidence, promoting legal certainty, and supporting sustainable development within the digital economy.

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[57] UNGA Res 70/1 (25 September 2015) UN Doc A/RES/70/1, para 54.

[58] ibid.

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