

DOI: <https://doi.org/10.63332/joph.v5i4.1183>

Empirical Analysis of E-Consumer Laws and Way Forward for Better Protection

Jawahitha Sarabdeen¹

Abstract

E-consumer laws are in infancy though e-commerce has matured in Malaysia. The traditional laws passed decades ago are still used even for e-commerce disputes and dispute resolutions. The article reviewed the literature on e-consumer protection and interviewed experts to see the applicability of the current law to protect consumers in e-commerce. The interview results revealed that the Contract Law, Sale of Goods Act, the Consumer Protection Act, the law on negligent liability, and laws related to courts' jurisdiction and execution of judgment need to be amended for better protection. The research finding has policy implications. The research suggested the areas where amendments to the existing legislation and laws should be needed and the reason for such amendments. The research contribution is significant as no research collected the opinion of experts in the area to suggest changes to the laws and regulations so that consumers in e-commerce could be better protected.

Keywords: E-Commerce, Consumer Protection, Laws, Opinion of Experts, Malaysia.

Introduction

E-commerce allows the doing of business in real-time through the internet where the consumers and merchants are located in different places. E-commerce could be conducted in any network that processes various information and provides goods and services (Lichtenthaler, 2021, Abueid, 2024). E-commerce is a technology-enabled transaction between customers and businesses. The advertisement, negotiation, placement of orders, payment, and conclusion of the contract take place online and the delivery mode is mainly agreed upon by the parties while agreeing. E-consumers are a customer who uses an online platform to buy and subscribe to licensed goods and services for personal use. The Malaysian Consumer Protection Act defines a consumer as someone who purchases or acquires goods and services for domestic or household purposes and not for resale or manufacturing. The consumer could also include those who get credits, debts, or obligations for personal or household purposes (Article 4). Some countries include those who hire or avail themselves of services in return for consideration as consumers (Indian Consumer Protection Act). Legal protection will not be available for consumers who bought goods for resale or manufacturing.

Consumer protection ensures protection against defective goods and services or fraudulent trade-related activities. Protection is also offered to consumers, whose rights have been violated or whose sale and purchase were due to misrepresentation and unfair business practices (Chawla, N., & Kumar, 2021). Consumer protection law requires the seller to provide, satisfactory quality goods and services that fit the purposes they have bought. If they have acquired goods and

¹ Prince Sultan University, Email: jsarabdeen@psu.edu.sa



services based on the description, they should follow the description. Though the Malaysian Consumer Protection Act 1999 does not define consumer protection, it states that if anyone buys goods and services, they should match the nature and quality promised.

The protection of consumers is always a concern in e-commerce as the laws and regulations are not updated. Adequate protection will ensure that e-commerce is conducted with the understanding that laws could protect them if the sellers fail to meet their promise or are involved in fraudulent and unscrupulous trading activities. In many countries' laws related to consumer protections have not been updated for decades (Devita Sari, et al., 2024). Malaysia is not an exception to this legislative inactivity. E-consumers face many issues that need legislative attention, especially in consumer contracts, privacy, redress, and jurisdiction. Proper and adequate laws are necessary to build consumer confidence and trust so that e-commerce will flourish or else start to produce horror stories and cause mistrust (Sun and Li, 2022; Rehman, and Shaikh, 2020).

In the context of consumer protection, it is generally viewed that Malaysian legislation is not adequately protecting the e-consumers. Laws were designed more to accommodate the traditional business methods than to meet the new challenges (Rachagan, 1997). The initiative to amend the existing legislation or introduce legislation to address consumer grievances over electronic commerce is slow. Even if it is possible to extend the general principles of various laws and regulations to address e-consumer issues detailed and technical laws are inevitable in the wake of e-commerce to provide better consumer protection (Brenncke, 2024; Belwal, et al. 2020). Therefore, the objective of the research is to analyze experts' opinions on the adequacy of present legislation to find out the level of protection the existing laws provide for e-consumers and to suggest amendments to the laws that are deemed necessary.

Literature Review

E-commerce is based on a promise, bargain subsequently to an agreement (Khahro, et al, 2021). Thus, the validity of e-commerce relies on the issues of the legality of the promise, the acceptability of the terms, enforceability of the contract (Dey and Pattanaik, 2022). The fundamental of e-commerce is the acceptability and enforceability of the contract by the sellers and the buyers. The literature looked at the elements of contracts and the legality of online contracts, especially the scope, limitation, bargaining power, and enforcement in different countries. In the related context, the effectiveness and legal status of online advertisements were brought about to see if they could be considered as an offer or invitation to treat (Ding, 1999). The literature suggests that consideration, capacity to enter e-contracts, and intention to create legal relations need revision to give certainty in e-commerce dealings (Chissick and Kelman, 1999). Digital signatures have become significant in e-commerce for authentication and verification. It provides some sort of certainty and confidentiality of messages transmitted over the electronic medium.

E-commerce offers various products from households to pharmaceuticals and services like babysitting, online dating, and other consultation services internationally (Neogi, 2021). If the products and services rendered are not of satisfactory quality, the consumers should sue for breach of contract and be able to obtain any redress even though the contracts have been concluded over an electronic medium. The redress mechanisms should be available to parties regardless of whether they have bought goods or services (Singh, 2024). The issue of who can file a case in case of a grievance, the literature looks at the Contracts Act and Sale of Goods Act. Under these laws, the parties contracted only can bring an action for breach of contract. This

concept is called a privity of contract. The contractual right is confined to the buyer. He is the only one who could bring an action to claim damages for breach of contract. A sub-buyer, a member of the buyer's family, his employee, a guest, or a bystander has no contractual remedy against anyone in the chain of distribution if he suffers loss or injury due to a defect in the goods or services supplied to them (Sujono, et al., 2022). The privity of contract rule should be modified to allow a consumer to claim against the manufacturer even if he is not a purchaser of his products. It is difficult to establish the elements of a contract when the human elements are removed, and the contracting is performed electronically. Therefore, clarity in law is important to benefit all parties in e-commerce. To address the new phenomenon created by e-commerce, the need for amendments to the existing contract law is inevitable (Nilamjati, et al. 2025).

Another issue discussed is the application of the Sale of Goods Act to e-commerce. The e-commerce sale could be considered a sale by description. If they are sold by descriptions, then the provisions available under the Sale of Goods Act could be used by a purchaser-consumer to claim benefit if the implied terms under the contracts are not fulfilled. However, the application of the Sale of Goods Act creates some uncertainty.

Literature investigated the legal consequences, and the laws related to injury caused by negligence of manufacturers or service providers that consumers purchased online. The laws regarding manufacturing errors and associated liability suggest that they are liable for the injury caused due to manufacturing defects provided the manufacturers have no available definitions (Riches and Allen, 2009). The liability is broad and could capture the retailers, repairers, testers, and traders who failed to take reasonable care for foreseeable harm. In assessing liability, the court could consider factors like the likelihood, seriousness of injury, the cost of precaution, and the public need for the products or services (Riches and Allen, 2009). Additionally, it will also analyze steps taken to prevent any harm (Miller and Jentz, 2002). However, if the damage is not caused by human error or error where humans could not be associated, then it might be challenging to claim liability as the injury was not foreseeable. For example, a new powerful virus that affected the computer was beyond the boundaries of foreseeability. The e-trader is expected to give adequate information and warning to be exempt from liability (Hoffman, 1985). The issue related to pure economic loss and the difficulties in recovering such loss in e-commerce is very high (Wu, et al. 2024). Professionals like medical, dietitians, and financial advisors could be held liable if they have given the advice customers will rely upon. If that advice has gone wrong, the consumers could be able to file against the person or organization (Wu, et al. 2024). However, succeeding in proving liability in advice received online might be challenging due to the involvement of various parties in making sure that the required service was delivered to e-consumers. Further, finding the right court to use, the right and solvent defendant would be some of the challenges discussed.

The right to privacy is another issue discussed in the literature related to consumer protection and e-commerce (Bonavia and Morton, 1998; Aljudaibi & Amuda, 2024). The e-consumers must be assured that their right to privacy will not be violated as there is a potential threat of violation of privacy when the consumers go online, especially the abuse of personal data. The issue related to e-consumer data collection, and disclosure to understand intention and predict behaviour is a concern for consumers. Personal data has become the core of e-commerce transactions. Thus, adequate protection is necessary (Hewett & Whitaker, 2002).

There are two trends regarding information and communication technology (The Information Infrastructure Task Force, ND). One is a social trend, leading to more and more individuals who use the National Information Infrastructure (NII) to communicate, to order goods and services, and to obtain information. Because users pay for these new services, their activities generate data that can easily be stored, retrieved, analyzed, and reused. Such transactional data may reveal who communicated with whom, when and for how long, who bought what, and at what price.

The other trend is a technological one, the increase in the capacity of hardware, software, and communications networks, decreases costs. Nowadays, as more and more personal information appears online, personal profiles can be built in a matter of minutes, at minimal cost. These trends will lead to more personal data being generated and used. According to the Privacy Working Group, this means that there is an increased risk that privacy is invaded. Unless the privacy of individuals is guaranteed, individuals will not participate if they fear that the cost (i.e., loss of privacy) will outweigh the benefits (i.e., access to information) (Bekkers, 1996). The abuse of personal data and the need for the protection of consumer data led to many legislative and policy outcomes internationally (Ho, et al., 2023). Regardless, new technology challenges the existing law and pushes for further legislation. Some businesses have proactively protect privacy and comply with the law. However, not many e-commerce portals and traders are motivated to ensure data privacy as they can use the data for their business profit. Since the current legislative framework in Malaysia is not adequate to protect privacy including data privacy, it is pertinent to make sure that adequate law is in place to protect e-commerce and to provide redress in case of any abuse (Sarabdeen and Mohamed Ishak, 2024).

In e-commerce, jurisdiction is always a concern. Because the legal environment of e-commerce has no geographical boundaries, it establishes immediate long-distance communications with anyone who accesses the website (Koepsell, 2000). Jurisdiction is the authority of a court to hear a case and resolve a dispute is one of the concerns. According to Hamid Sultan (1995), jurisdiction is the authority of a court to administer justice, not only concerning the subject matter of the action but also the local and pecuniary limits within which the court has the power to entertain the action presented before). Usually, an online e-consumer has no way of knowing exactly where the information on a site originated. Thus, engaging in e-commerce may expose various uncertainties and cause problems when a consumer wants to file a case for any grievances caused. Therefore, the existing laws need modification to suit this circumstance (Meskic, et al., 2022).

In the UK, the consumers, with the Civil Jurisdiction and Judgments Order 2001, are given the option to bring a case in their place of resident irrespective of the fact that the e-merchants could be in different jurisdictions (Rowland & Macdonald, 2000; Martin, 2017). Geist, (1999), supports this initiative of the UK. He stated that if such a measure is not introduced most consumers would be forced to bear the risk of e-commerce and face the prospect of having no protection for an online transaction. Many consumers remain wary of e-commerce, citing privacy, security, and general uncertainty concerns. The court may look at the connection to the country, the quality of the court system, the difficulties, and the cost could be assessed before deciding the court's jurisdiction to hear a case (Forder and Quirk 2001).

Singapore's Electronic Transactions Act (SETA) 2010 clarified the acceptability of online contracts and electronic records. Singapore was proactive in protecting the consumers. The Consumer Protection (Fair Trading) Act (CPFTA) includes provisions under "lemon law," that protects against defective goods. Singapore's Consumer Goods Safety Requirements (CGSR)

also ensure that the goods meet the safety standards before entering the market (Consumer Product Safety Singapore, 2025). Consumer personal data are protected through the Personal Data Protection Act (PDPA) which controls data misuse (DLA Piper, 2025). Further, the Scams Act consumers are protected from suspected fraud through. The Singaporean private sector also introduced verification and fraud detection measures to ensure consumer protection. Effective public education programs have been proven to be effective in creating a collective responsibility for ensuring consumer protection (Krause, 2025).

In Malaysia, the Court of Judicature Act, the Subordinates Courts Act, and the Rules of High Court provide guidelines regarding the jurisdiction of Malaysian courts. According to Ding (1999) even if the legislation could be used, there is no clear provision on the issue of cyber jurisdiction. The proposition is that the local court in the consumer country should exercise jurisdiction on the transnational trades. However, most e-commerce sites select the form of a dispute and the applicable law. As a result, many consumers fail to file cases against grievances they face, due to the difficulties and costs they will incur in a legal suit (Ding, 1999). Though the literature discussed e-commerce and factors affecting consumer protection, there is no literature investigating the opinion of the experts in understanding the problems and providing solutions.

Methodology

The interview research method was applied to gain insight and understanding of the consumer protection laws for e-consumers under Malaysian law (Malhotra, 2010). The research used open-ended structured interviews to collect data and to eliminate bias. The method was appropriate as various questions and answers could be solicited. It also helps to have an effective sample. The questionnaire was prepared using unambiguous words. The questions were chosen carefully to achieve the research objectives. The populations for the interview were selected from academics, practitioners, and representatives of consumer organizations who know the subject matter and have relevant experience.

The theme for the open-ended interview was selected after reviewing literature on the topic from journals in Scopus, Web of Science, and Google Scholar. The search used words or a combination of words like "consumer protection", "consumer protection law", "e-contract and law", "consumer protection in Malaysia", "negligent liability", "jurisdiction", and "dispute settlement". The draft interview questions were reviewed by 2 experts and revised before distribution.

The participants were selected after collecting their information from the Internet and matching it with the skills and knowledge to participate in the interview as there is no expert directory available. 63 were selected as relevant population and all of them were contacted. 32 of them agreed to participate of which 18 of them from academics, 6 of them from practitioners from law firms, and 8 of them from consumer organizations/public/private companies. The limitation of the study is that it was mainly conducted in Klang Valley in Selangor as many legal experts are centered in this area. Another limitation is that the data was collected from legal experts only and other experts were not interviewed. Sekaran (2013) stated that sample sizes larger than 30 and less than 500 are appropriate for most research. Accordingly, the response was considered reasonable. The researcher proceeded with the coding of the samples and analysis. The responses were coded as in Table 1.

Responses	Coding
Agreed	4
Neutral	3
Disagree	2
Not Sure	1

Table- Coding of Samples

In analyzing the responses, the researcher used Excel to find agreement and disagreement on a particular issue and any associations (Cooper, Donald, C, & Schindler, 2012; Davis, 2005). The association helps to identify responses from various industries and experiences.

Empirical Analysis and Discussion

The interview comprises five sections: demography, questions on contract law, law on negligence, privacy, and jurisdiction-related laws. Regarding the questions on contract law, the questions have touched on the Contract Act, Sales of Goods Act, Direct Sales Act, Digital Signature Act, and Consumer Protection Act. The result has shown the following:

- 26 out of 32 respondents said an amendment to the existing Contracts Act was necessary. They felt the Contracts Act must be comprehensive and developed in line with technological progress. Currently, there are no clear provisions on the issue of e-commerce. Additionally, they stated that the Contracts Act 1950 only dealt with conventional transactions and many principles could not suit e-commerce.
- 4 respondents stated that the amendment was not necessary since the Contracts Act was adequate. They thought that in case there were some new issues arose due to e-commerce; it would be possible to extend the general principles of the Contracts Act. If it is difficult to extend, then only the government should introduce new legislation to address the e-contract matters.
- 14 academicians, 2 consumer organization representatives and lawyers, and 10 others had expressed the view that there is a need to amend the existing Contracts Act, and the majority of these people had over 10 years of work experience.

The interview posed a question as to whether it is possible to treat an advertisement over the interactive website as an offer. 13 of them had agreed that it was possible to treat them as an offer and another 13 said it should not be treated as an offer. 6 of them said it might be considered as an offer. Based on those who stated that it was an offer, and it may be treated as an offer, it could be concluded that 59% of the respondents felt that it should be treated as an offer to provide better protection to e-consumers. Those who expressed this view were the people who had more than 6 years of experience. Thus, a governmental initiative to address the issue in question is necessary.

Additionally, the respondents had been requested to give an opinion on the possibility of the Digital Signature Act providing some level of security and confidentiality to the e-consumers. 50% of them pointed out that it could ensure security and confidentiality. However, 25% had mentioned that they were not familiar with that legislation. Many of those who said that it provided security and confidentiality did not give reasons, but the only reason given by one of the respondents was that public key and private key cryptography were proven to be the most secure means. 12.5% did not agree that the law provides security and confidentiality. They mentioned that it was designed to provide a means of authentication and verification. The

participants suggested that the burden placed on the private key holder by the Digital Signature Act should be lifted.

On the applicability of the Sale of Goods Act to protect consumers, as the literature suggested that the law needs to be amended to address issues of e-commerce and consumer protection, the respondents were asked about the need to modify the Sale of Goods Act, their responses were presented in Figure 1:

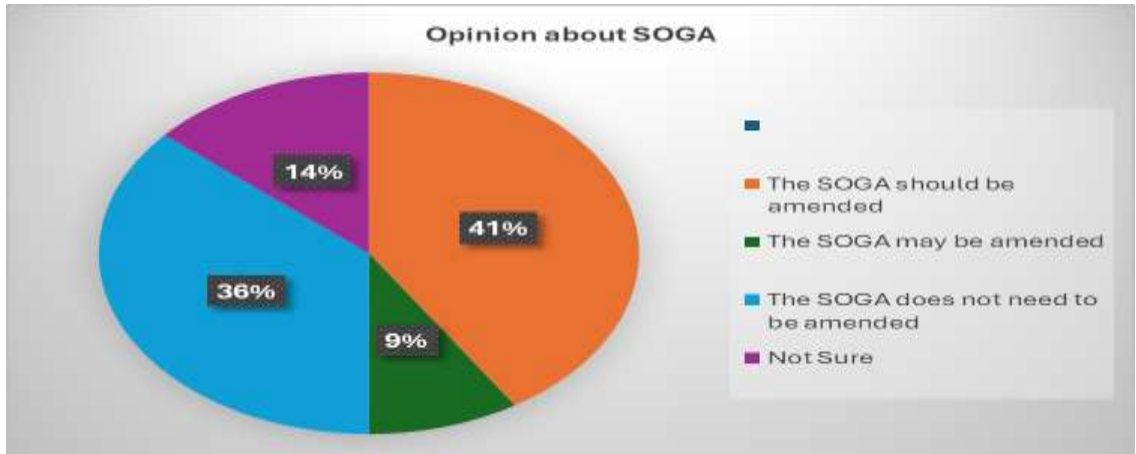


Figure 1- Opinion on the Sale of Goods Act

41% felt that the Sale of Goods Act needed amendment. However, 36% felt the other way. They thought that amendment to the Sale of Goods Act was not feasible or necessary. The minority said that it was better to amend the Consumer Protection Act rather than the Sale of Goods Act. 94% of the interviewees agreed that it was very important that the Consumer Protection Act must be further updated. Their level of agreement could be put in the diagram as follows in Figure 2:

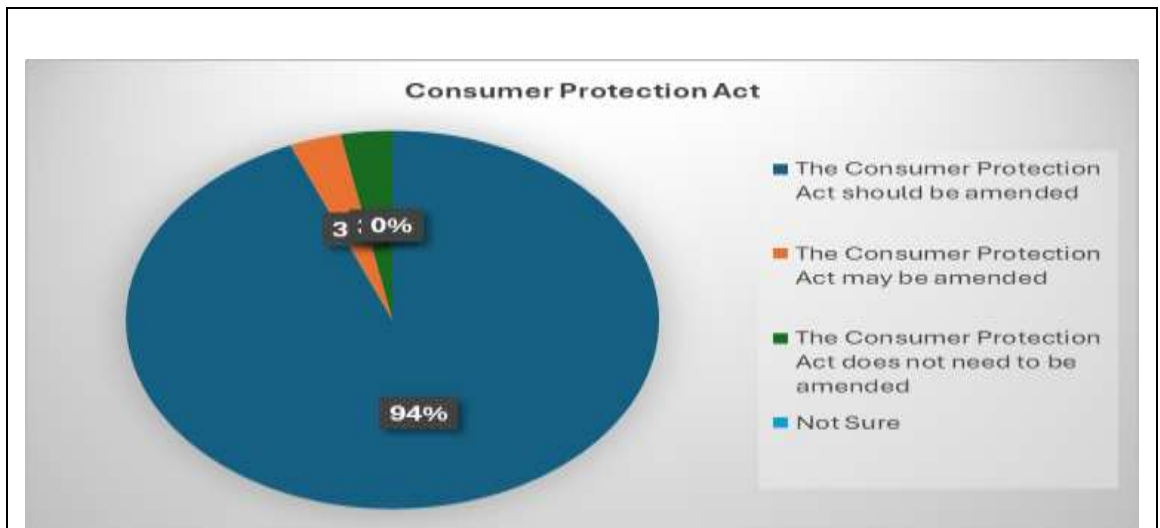


Figure 2- Amendment need for the Consumer Protection Act

On the issue related to negligence and liability of producers, manufacturers, and traders in e-commerce, over 78% agreed that they should be made liable as they control the manufacturing or service processes to ensure supplying the promised quality. The majority of them have more than 6 years of experience. They stated that if the liability is not imposed, the consumers could face various grievances. About 16% of interviewees disagree with the imposition of liability on manufacturers or service providers. Figure 3 explains the opinion of the respondents on this issue.

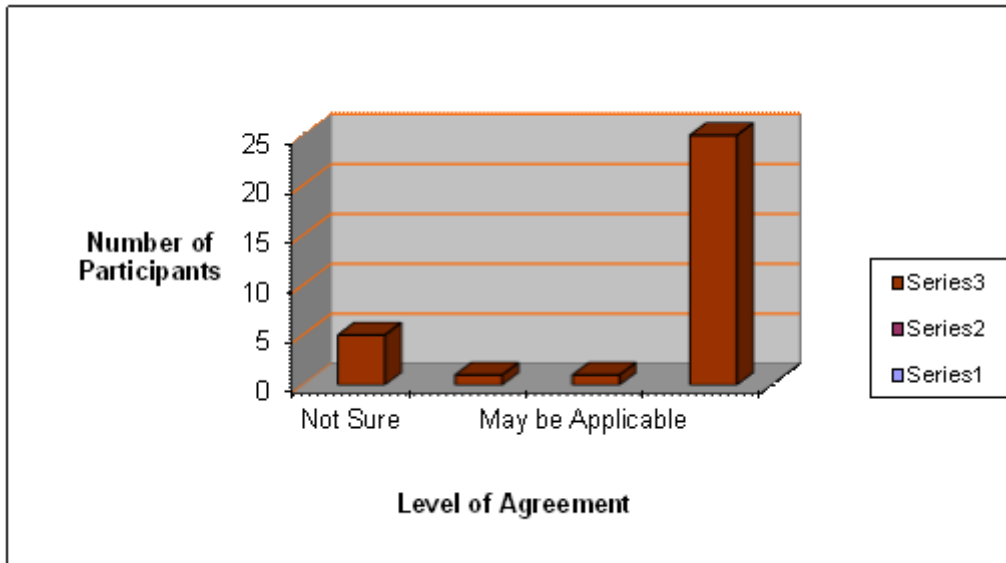


Figure 3- Manufacture And Service Provider Liability In Negligence

The challenge is proving the connection between foreseeable harm and the cause of it, especially in technical and medical cases (Bainbridge, 2004). More than 90% of the respondents regarding possible difficulties in proving causation. It is exacerbated by the fact that consumers lack knowledge and understanding of the processes and their technicalities. Thus, applying strict liability would be a viable solution so there is no need to prove causation. The problem of proving causation becomes complex as many parties are involved in an online transaction. Besides causation, finding the right defendant and the uncertainty as to the cost of litigation discourage consumers from filing cases against the manufacturers or service providers. Figure 4 shows the opinion of the participants on causation.

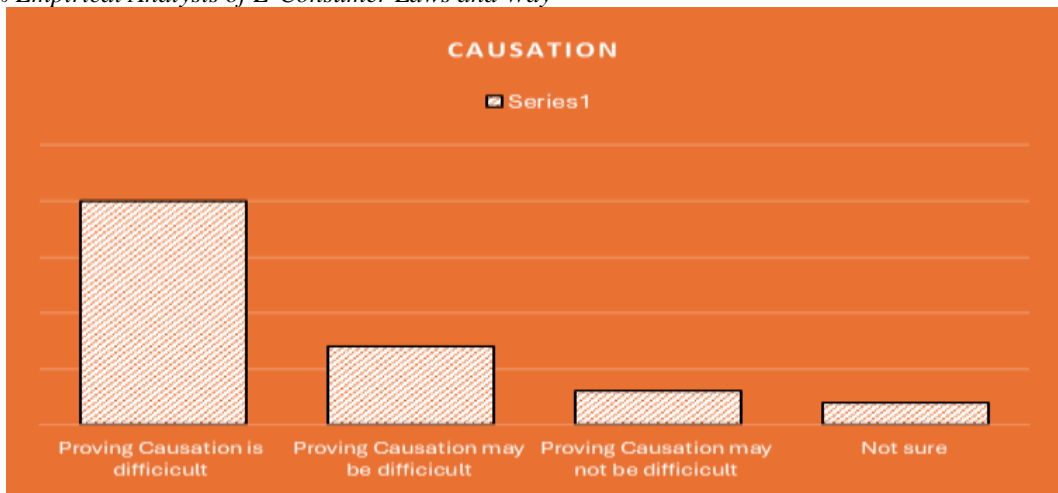


Figure 4- Difficulties in Proving Causation

When the participants were asked about the mode of privacy regulation, they preferred appropriate laws from the government over self-regulation of the industry in terms of privacy and data protection. The majority of them said that the correct laws could protect the consumers better than leaving it to industry regulation. The view is expressed by those who have many years of experience in their field. They stated that

1. it is a better model as it has a better enforcement mechanism and effective data protection principles, and
2. the opt-in approach provides better assurance to consumers since the consumers are given the option to refuse consent for collection, and use of their data.

They also said data protection law should apply to all parties including the government. 78.1% believed that it was possible to do justice to all parties only when the law was applied to all the parties. As the current data protection law does not apply to government entities, the protection available for privacy violations is limited. According to these respondents, privacy protection increases internet users' confidence. In case when the public sector happens to be excluded from the law, there is a need for another comprehensive legislation to regulate them as the government and related departments or companies are the active collectors of personal information.

As regards the jurisdictional restriction, the respondents thought that the current courts should extend their jurisdiction beyond their boundaries when deciding disputes of e-commerce. They also thought that e-commerce was global or borderless in nature and therefore there was a need to move forward beyond the traditional rules of jurisdiction in cases where Malaysian consumers got cheated. The interview showed that 95% agreed with the suggestion to extend the Malaysian Courts' jurisdiction beyond its borders. According to them, e-commerce owners should be tried in Malaysia since they are doing business in Malaysia. One participant suggested that it would be better if there was an international court to deal with e-commerce-related matters. Such an establishment will help to avoid any possible disputes as to who has better jurisdiction to try a particular case. However, 9.4% of the respondents thought otherwise. According to them, such an extension would create unnecessary disputes and havoc in the selection of courts. Figure 5 captured the opinion of the participants on jurisdiction.

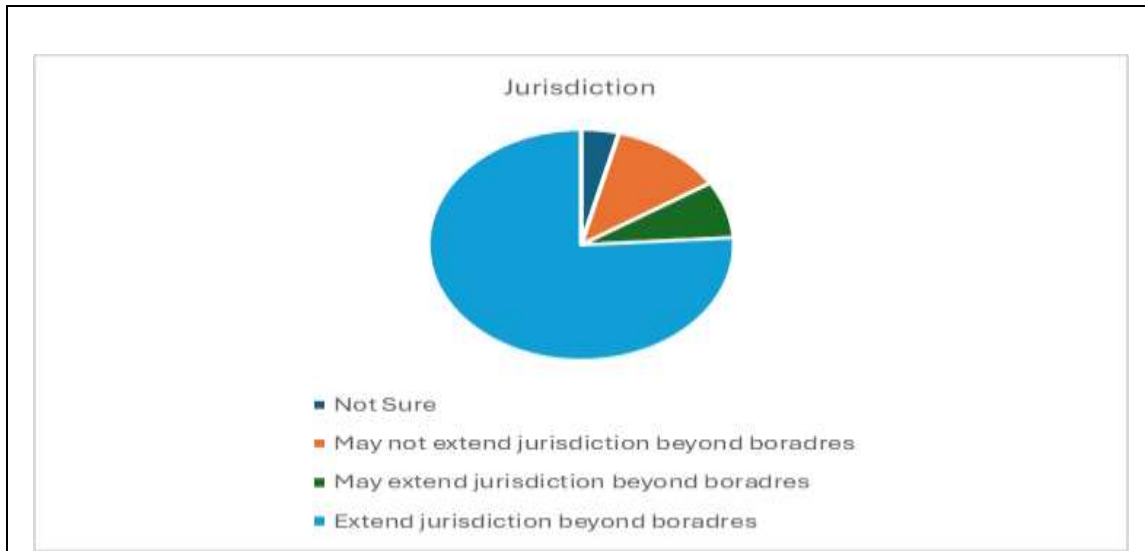


Figure 5- Need To Amend Laws Related to Jurisdiction

The local courts may exercise jurisdiction over e-commerce disputes when a Malaysian consumer is contracted with a foreign vendor who sells his goods and services over the Internet. If none of the countries exercises jurisdiction, the consumers will only file a case in the seller's or service provider's jurisdiction. This could be very costly and troublesome for the consumers (Ding, 1999).

The Australian case of *Gutnick v Dow Jones & Co Inc* [2001] VSC 305) considered various cases from the US and decided that when the cause of action arose over the Internet, the traditional application of jurisdictional principle needs some deviation. Consequently, the courts in countries where information is uploaded and downloaded will have jurisdiction to try a case. Similarly, US decisions may guide Malaysian courts in deciding such cases. When the interviewees in the survey were asked about the usefulness of US decisions to Malaysian courts, 53.1% of the respondents said that the decisions of US courts could be of guide or persuasive authority to local courts even if they were not binding. However, 18.8% of the respondents thought that the US system of law and regulations was different and therefore it was not appropriate to follow the US decisions even if they were persuasive.

59.4% of the survey respondents also contemplated that the scope of the Reciprocal Enforcement Act must be amended to include more countries in it and to give effect to arbitration awards. Such amendments were necessary to expand e-commerce and the judgments were enforced. In addition, they stated that the amendments were needed for modernization. One of the respondents voiced out that the current law is outdated, and that amendment to the current legal framework would enhance trust and confidence in e-commerce it could provide better protection to e-consumers. Thirteen of the respondents were either not aware of this legislation or they had no view on this particular issue.

The respondents further thought that the existing laws (the Court of Judicature Act, Rules of High Court, and Subordinate Courts Act) had restrictions in subjecting foreign defendants to Malaysian courts. The main reason could be because the laws had been passed during the pre-

electronic era. However, one respondent commented that in the case of an e-commerce dispute, closer cooperation between the countries was necessary. Despite the majority's view as regards the inadequacy of the existing law, 15.6% of the respondents thought that the current law did not place any restriction on bringing foreigners to local courts, while 18.8% of them were not familiar with cyber jurisdiction issues. The respondents also had been asked whether legislative amendments were necessary to allow the consumers to bring legal suits in their place of residence. 68.8% of them agreed, while 9.4% of them said that there was no need for such an amendment. Some other respondents mentioned that the amendment to protect consumers. This would help the consumers to choose a convenient forum for them to file a case. The summary of their responses is in Figure 6:

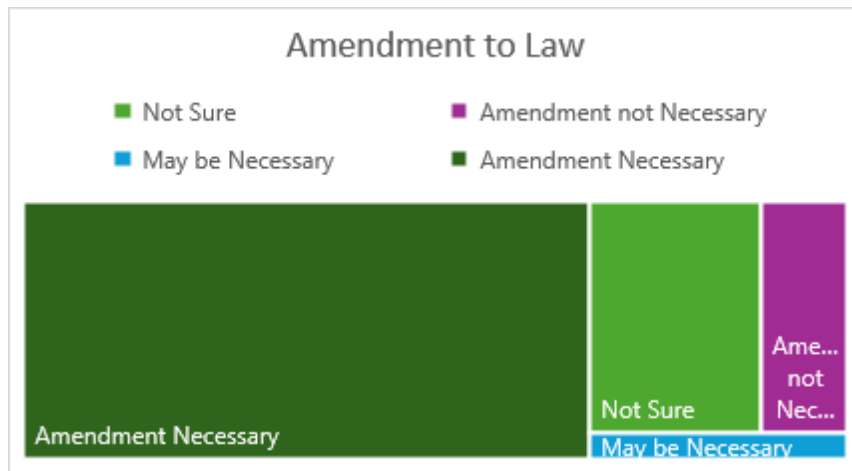


Figure 6- Amendment to Reciprocal Act

Implications of the Study and the Recommendations for Way Forward

The interview reveals that the laws in Malaysia on e-commerce are inadequate to protect consumers. The following are recommended as the way forward to improve consumer protection in e-commerce dealing.

The contract law should be reviewed to address online offers, invitations to treat, and the conclusion. The Digital Signature Act is intended to provide security and confidentiality. However, the current law is only designed to provide a means of authentication and verification and places responsibility on the private key holder regarding the security of the private key. The Digital Signature Act could be relooked to modify the law to suit the current needs of the consumers. The Sale of Goods Act should be modified to expand the scope, the implied terms, and privity to the contract. The Consumer Protection Act should be amended to expand its scope.

On issues related to negligence, the liability of producers, manufacturers, and traders in e-commerce should be expanded to cover anyone who has control of manufacturing or service processes. Additionally, proving the connection between foreseeable harm and the cause of the harm especially in technical and medical cases is challenging as consumers lack knowledge and understanding of the processes and their technicalities. Therefore, introducing strict liability for e-commerce consumers could help to ensure protection against fraudulent businesses.

As privacy protection increases internet users' confidence, the public sector should be covered under the data protection law. The other option is to legislate comprehensive legislation to regulate the public sector. The Malaysians are new to self-regulation, they prefer the government to provide comprehensive data protection laws that allow the industry to regulate privacy and data protection.

The local courts may exercise jurisdiction over e-commerce disputes when a Malaysian consumer is contracted with a foreign vendor who sells his goods and services over the Internet. Otherwise, the consumers will be forced to file a case in the seller's or service provider's jurisdiction which could be costly and troublesome. To create certainty on this issue, the Court of Judicature Act, Rules of High, and the scope of the Reciprocal Enforcement Act must be amended. This amendment could include more countries in the reciprocal arrangements and can enforce judicial and arbitration awards beyond borders. Such amendments were needed to expand e-commerce, and the judgments passed were enforced. Cooperation between the countries for jurisdiction and enforcement should be established so that e-commerce sites outside the local jurisdiction can be held accountable (Meskic, et al, 2022).

Conclusion

The foregoing literature review and interview results suggest that consumer grievances concerning contract, negligence, privacy violation, selection of court, and enforcement of judgments are bound to occur. It also proposes that few nations have taken legislative measures to address these grievances. Malaysia, however, is said to be less active in providing speedy legislative measures to address e-commerce consumer grievances. There is a need to update all the legislation to be on par with the technology changes so that the consumers can be better protected.

Amendments should be made regarding online contracts, the liability of parties, the burden of proof, data protection in public institutions, the jurisdiction of the courts, and the enforcement of the judgment. All these amendments are needed to provide certainty in e-commerce so consumers can make informed decisions about their transactions.

Acknowledgment: The author would like to acknowledge the support of Prince Sultan University (PSU) for the research and for paying the Article Processing Charges (APC) for this publication. The author would also like to record the support provided by the Governance and Policy Research Lab.

References

- U. Lichtenthaler, "Profiting from Digital Transformation? Combining Data Management and Artificial Intelligence," *International Journal of Service Science, Management, Engineering, and Technology*, vol. 12 no. 5, pp. 68–79, 2021 10.4018/IJSSMET.2021090105
- I. Abueid, "Big Data and Cloud Computing Opportunities and Application Areas", *Eng. Technol. Appl. Sci. Res.*, vol. 14, no. 3, pp. 14509–14516, Jun. 2024.
- N. Chawla and B. Kumar, "E-Commerce and Consumer Protection in India: The Emerging Trend," *Journal of Business Ethics*, vol. 180, no. 2, pp. 581–604, 2021, <https://doi.org/10.1007/s10551-021-04884-3>
- S. E. Devita Sari, M. W. Saphira, and T. Sibarani, "Legal Aspects of Consumer Protection in E-Commerce Transactions: Implementation and Urgency of Regulations in the Digitalization Era," *JUSTICES: Journal of Law*, vol. 3, no. 2, pp. 86–110. 2024
- Y. Sun and Y. Li, "The Impact of Risk-Aware Consumer Trust on CB E-Commerce Platforms and Purchase Intention," *Journal of Global Information Management*, vol. 30, no. 3, pp. 1–12, 2022.

- Z.U. Rehman, and F.A. Shaikh, "Critical Factors Influencing the Behavioral Intention of Consumers towards Mobile Banking in Malaysia." *Engineering, Technology & Applied Science Research*. 10, 1 (Feb. 2020), 5265–5269.
- M. Brenneke, "A Theory of Exploitation for Consumer Law: Online Choice Architectures, Dark Patterns, and Autonomy Violations," *J Consum Policy*, vol. 47, pp. 127–164, 2024. <https://doi.org/10.1007/s10603-023-09554-7>
- R. Belwal, R. Al Shibli, and S. Belwal, "Consumer protection and electronic commerce in the Sultanate of Oman," *Journal of Information, Communication and Ethics in Society*, vol. 19, no. 1, pp. 38–60, 2020.
- H.S. Khahro, S. Hassan, N.Y. Zainun, Y. Javed, "Digital Transformation and E-Commerce in Construction Industry: A Prospective Assessment," *Academy of Strategic Management Journal*, 20., vol. 20, 2021.
- S. B. Dey and S. Pattanaik, "Electronic Contract in the Modern Era, an Overview and Upcoming Difficulties Going Ahead," *Issue 4 Indian JL & Legal Rsch.*, 4, 2022.
- Consumer Product Safety Singapore "Consumer Protection (Safety Requirements) Regulations," 2025. [Online]. Available: <https://www.consumerproductsafety.gov.sg/suppliers/cpsr/overview-of-cpsr/>
- DLA Piper "Data protection laws in the U.S. and Singapore. DLA Piper Global Data Protection Laws," 2025. [Online]. Available: <https://www.dlapiperdataprotection.com/#:~:text=An%20overview%20of%20key%20privacy%20and%20data%20protection,Piper%27s%20Data%20Protection%20Laws%20of%20the%20World%20Handbook>.
- K. David, *The Rise of Online Scams and Consumer Protections: A Comparative Analysis of the U.S. and Singapore* (February 12, 2025). Available at SSRN: <https://ssrn.com/abstract=5134496> or <http://dx.doi.org/10.2139/ssrn.5134496>
- J. Ding, *E-commerce: Law and Practice, Malaysia*: Sweet & Maxwell Asia, 1999
- M. Chissick and A. Kelman, *Electronic Commerce: Law and Practice*, London: Sweet & Maxwell, 1999.
- D. Neogi, "Combating Cyber Crime: How Can Technology Intervention Supplement Legal Provisioning?" *Int. J. Serv. Sci. Manag. Eng. Technol.*, vol. 12, pp 1-15, 2021
- B. Singh, "Featuring Consumer Choices of Consumable Products for Health Benefits: Evolving Issues from Tort and Product Liabilities," *Journal of Law of Torts and Consumer Protection*, vol.7, no.1, 2024, 1525
- Sujono, Y. A. Mangesti, and S. Suhartono, "The Seller's Liability Due Hidden Defective Products in the Online Selling and Buying Transaction Base on Consumer Protection Law (UUPK)," *International Journal of Law Reconstruction*, vol. 6, no. 2, 2022, 10-26532.
- R. S Nilamjati, A. S. Sudarwanto, and Y. T Muryanto, "E-contract in the Aspect of Online Sale and Purchase Agreement Correlated with Article 1320 of the Civil Code," *Siber International Journal of Advanced Law (SIJAL)*, vol. 2, no. 3, pp.106-112, 2025.
- S. Riches and V. Allen, *Keenan and Riches' Business Law*, 9th Ed. London: Pitman Publishing, 2009.
- L. R. Miller and A.G. Jentz, *Law for E-Commerce*, USA: Thomson Learning, 2002.
- J. M. Hoffman, "From Random House to Mickey House: Liability for negligent Publishing and Broadcasting," *Tort & Insurance Law Journal*, vol. 21, no.1, pp. 65–89, 1985.
- B. Wu, Q. Ben Liu, X. Guo, and C. Yang, "Investigating patients' adoption of online medical advice," *Decision Support Systems*, vol. 176, 2024, 114050.
- M. Bonavia, and L.W. Morton, "Personal Information Privacy Issues Relating to Consumption in the US Marketplace," *Consumer Interest Annual*, vol. 44, pp. 1-29, Mar, 1998.
- S. A. Aljudaibi and Y.J. Amuda, "The legal framework governing consumers' protection in digital banking in Saudi Arabia," *Journal of Infrastructure, Policy and Development*, vol. 8, no. 8, 2024, 5453.
- W.G. Hewett and J. Whitaker, "Data Protection and Privacy: The Australian legislation and its implications to IT Professional," *Logistic Information Management*, vol. 15, pp. 369-376, 2002.

- The Information Infrastructure Task Force (ND) accessed: Jan, 2025 [Online]. Available : <http://www.ibiblio.org/nii/NII-Task-Force.html>.
- V. Bekkers, V.J. Koops,; N. Sjaak Emerging Electronic Highways: New Challenges for Politics and Law. The Netherlands: Boston: Kluwer Law International, 1996.
- F. N. Ho, N. Ho-Dac, and J. S. Huang, "The Effects of Privacy and Data Breaches on Consumers' Online Self-Disclosure, Protection Behavior, and Message Valence," *Sage Open*, vol. 13, no. 3, 2023.
- J Sarabdeen, MMM Ishak, "A comparative analysis: health data protection laws in Malaysia, Saudi Arabia and EU General Data Protection Regulation (GDPR)," *International Journal of Law and Management*, vol. 67, no. 1, pp. 99-119, 2024.
- D. R. Koepsell, "An emerging ontology of jurisdiction in cyberspace," *Ethics and Information Technology*, vol. 2, 99–104, 2000. <https://doi.org/10.1023/A:1010024626549>.
- H. Sultan, *Janab's Key to Civil Procedure in Malaysia and Singapore*. Malaysia: Janab's Sdn.Bhd.1995.
- Z. Meskic, M. Albakjaji, E. Omerovic, and H. Alhussein, "Transnational Consumer Protection in E-Commerce," *International Journal of Service Science, Management, Engineering, and Technology*, vo. 13, no. 1, pp. 1–15. 2022
- D. Rowland and M. Elizabeth, *Information Technology Law*, 3rd Ed. London: Cavendish Publishing, 2005.F.
- Martin, *International Jurisdiction over Consumer Contracts*, Sept, 2017, Accessed: Jan, 2025. Available: <http://dx.doi.org/10.2139/ssrn.3045776>
- M. Geist, "Buyers Will Be Wary until Laws Locate E-Commerce," *Toronto Globe and Mail*, Accessed: January 5, 2025 [Online]. Available: <https://www.michaelgeist.ca/1999/09/buyers-will-be-wary-until-laws-locate-e-commerce/>
- P. Quirk, and J. Forder, *Electronic Commerce and the Law*, 2nd ed. Sydney: Wiley, 2003.
- N.K. Malhotra, *Marketing Research: An Applied Orientation*. 6th ed. Upper Saddle River, NJ: Pearson, 2010
- U. Sekaran, *Research Methods for Business: A Skill Building Approach*, 6th Ed. USA: John Wiley & Sons, 2013
- D.R. Cooper and P.S. Schindler, *Business Research Method*, 12th Ed. USA: McGraw Hill, 2012.
- D. Davis, *Business Research for Decision Making*, 6th ed. Belmont, CA: Thomson/Brooks/Cole, 2005.
- D. Bainbridge, *Introduction to Computer Law*, 5th Ed. England: Pearson Education Ltd, 2004.