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**Towards the Development of a Balanced
Legislative Framework for Consumer Data
Protection in Electronic Commerce: The Case
of the Sultanate of Oman**

By

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A thesis submitted in fulfilment of the requirements for the degree
of Doctor of Philosophy

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September 2022

Abstract

This research aims to investigate whether the law as it currently stands in Oman provides adequate legal protection for personal data, to determine the current obstacles facing the electronic commerce sector, and to identify ways of overcoming such challenges. The empirical focus of this study will be electronic commerce transactions between companies and consumers. In this regard, the research will explore the perceptions of the main stakeholders towards privacy regulation and what implications these have for the growth of electronic commerce in Oman. The privacy that this research aims to explore is a complex issue since it concerns human feelings and experiences. Therefore, a qualitative approach in the form of semi-structured interviews will be deployed. The participants in this study are the main stakeholders in electronic commerce transactions: businesses, consumers and the government. A grounded theory approach will be implemented to provide a platform for generating new ideas and concepts about the impact of privacy concerns on electronic commerce. Employing a grounded theory approach will enable the researcher to arrive at a deep understanding of the data provided by the participants. It will also allow the researcher to achieve compression within the data in order to yield rich findings. The main finding of the research is that privacy concerns are the main obstacle that hinders the development of electronic commerce in Oman. The research also identifies other key factors which inhibit the growth of the electronic commerce sector in Oman, including consumer attitudes, the readiness of firms readiness and the role of the government as an actor within the sector. It was concluded that the most effective way of developing the electronic commerce sector in Oman would involve the cooperation of all parties in electronic transactions. That is to say: consumers, companies, and the government.

Declaration

I certify that this thesis which I now submit for examination for the award of Doctor of Philosophy is entirely my own work and has not been taken from the work of others, save and to the extent that such work has been cited and acknowledged within the text of my work.

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Abbreviations

1	ASC X12	Accredited Standards Committee X12
2	B2C	(Businesses to Consumers)
3	B2B	(Business-to-Business)
4	ICTMT	International Conference on Technology Management and Technopreneurship
5	IT	The Information Technology
6	EG	Electronic Governments
7	EC	Electronic Commerce
8	LDC	Least Developed Country
9	ICT	Information and Communications Technology
10	GDPR	General Data Protection Regulation
11	GDP	Gross Domestic Product
12	GCC	Gulf Cooperation Council
13	ITA	The Information Telecommunication Authority
14	ISP	Internet Service Provider
15	G2B	(Government -to- Business)
16	Nvivo	Qualitative Data Analysis Software
17	EDI	Electronic Data Interchange
18	UNCITRAL	United Nations Commission On International Trade Law

19	UNCTAD	United Nations Conference on Trade and Development
20	WTO	World Trade Organisation
21	FTA	Free Trade Agreement
22	FTC	Federal Trade Commission in USA
23	CAFTA	Central America Free Trade Agreement
24	CIS	Commonwealth of Independent States
25	OECD	Organisation for Economic Co-operation and Development
26	CAQDAS	Computer-Assisted Qualitative Data Analysis Software
27	IP	Internet Protocol
28	EFT	Electronic Funds Transfer
29	TCP	Transmission Control Protocol
30	ISP	Internet Service Providers
31	CTLIC	Community Technology Learning e-learning centre

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1. Introduction

Comprehensive strategies for economic reform were initiated in Oman when the country joined the World Trade Organisation (WTO) in 2000 and later signed a Free Trade Agreement (FTA) with the USA in 2009. The WTO and FTA agreements both require Oman to enact regulations that facilitate the implementation of electronic commerce within a secure, trusted online environment, which protects consumers.¹ However, according to the analysis of (2016-2020), electronic commerce marketing in Oman presents one percent of total sales. It is still a young market establishment and it has plenty of scope to develop in the future.²

One of the main factors restraining the growth of electronic commerce sector in Oman is a lack of effective legislative provision for electronic commerce and data protection, which directly affects consumers' decisions to use or avoid using electronic commerce services.³ Therefore, it is important to conduct research to identify the data protection gaps in the current legal framework in Oman in order to enhance the electronic commerce sector. This reflects the importance of enacting sufficient and appropriate laws in Oman to ensure the development of its electronic commerce sector.

The implementation of electronic commerce in Oman at an adequate level of quality requires advanced consumer protection structures in the business-to-consumer (B2C) sector; however, the sector significantly lags behind traditional markets in Oman in

¹ 'U.S. - Oman Free Trade Agreement: Potential Economy-Wide And Selected Sectoral Effects'(Usitc.gov,2006)<<https://www.usitc.gov/publications/docs/pubs/2104f/pub3837.pdf>> accessed 17 August 2021.

² Anwaar Al-Abri and Jitendra Pandey, 'Impact of "E-Commerce Business and Boom Of Online Market" On Retailers In Oman' [2020] Journal of Student Research 1.

³ Khamis Al-Gharbi, Abdulwahed Khalfan and Ahmed Al-Kindi, 'Problems of Electronic Commerce applications in a developing country: A descriptive case study of the banking industry of Oman' [2006] Computing and Informatics 1.

terms of development. In concrete terms, there is a lacuna within the Omani legal system that needs to be filled by transparent and coherent statutes that regulate electronic commerce. In the absence of such regulation, Omani consumers voice anxiety that their personal data is not adequately protected in the context of online transactions and this lack of trust will continue to be the main factor inhibiting the growth of electronic commerce in Oman.

The Omani B2C sector, then, lacks a comprehensive legal framework to protect consumers from the anxiety and uncertainty of participating in electronic commerce. Rakesh Belwal and others argue such a framework, alongside other measures, would contribute to improving consumer confidence and trust in the online market in Oman, where consumers remain reluctant to use electronic commerce to meet their daily needs.⁴

1.2 The research gaps

One of the goals of Oman's Vision is to overcome the obstacles that stand in the way of effectively and robustly implementing electronic commerce in Oman. One of these is the lack of legal regulation in the electronic commerce sector.⁵ On the question of inadequate legislative provision, it should be noted that electronic commerce in Oman is still in the early stages of development. The main symptom of this is a persistent preference for face-to-face trade, and resistance to the use of electronic means of exchange on the part of buyers and sellers for various reasons.⁶ One of these, according

⁴ Rakesh Belwal, Rahima Al Shibli and Shweta Belwal, 'Consumer protection and electronic commerce in the Sultanate of Oman' (2020) 19(1) *Journal of Information, Communication and Ethics in Society* 38.

⁵ 'Oman Vision 2040' (2040.om, 2020) <<https://www.2040.om/en/>> accessed 19 November 2020.

⁶ Anwaar Al-Abri and Jitendra Pandey, 'Impact of "E-Commerce Business and Boom Of Online Market" On Retailers In Oman' [2020] *Journal of Student Research* 1.

to one study on electronic commerce in Oman, is a lack of effective legislative provision for electronic commerce and data protection, which directly affects consumers' decisions to use or not use electronic commerce services.⁷

In their study of electronic commerce in Oman, Naqvi and Al-Shihi stress the impact of the security of online transactions on the implementation of electronic commerce services. They add that, in light of other factors such as uncertainty concerning the legal and regulatory frameworks for selling and buying over the internet, decision makers and IT experts should respond by prioritizing security and education: firstly, the security of online payment systems should be significantly enhanced; and, secondly, training should be provided for citizens to reassure citizens and tutor them in the nature and conduct of online transactions.⁸ As a remedy, they stresses the need for legislation appropriate to meeting the needs of electronic commerce in Oman.⁹

Security and inadequate legislative provision have already been identified as two factors that are particularly daunting. In recent years, technical and legal issues have come to be considered the main obstacles to the development of the electronic commerce sector.¹⁰

1.3 Scope and boundary of research

This thesis will focus on the B2C sector of electronic commerce in relation to consumers' data privacy interests in Oman. Accordingly, the empirical focus of this

⁷ Rakesh Belwal, Rahima Al Shibli and Shweta Belwal, 'Consumer protection and electronic commerce in the Sultanate of Oman' (2020) 19(1) *Journal of Information, Communication and Ethics in Society* 38.

⁸ Syed Naqvi and Hafedh Al-Shihi, 'Factors Affecting M-commerce Adoption in Oman using Technology Acceptance Modeling Approach' (2014) 3(4) *TEM Journal* 315.

⁹ *Ibid.*

¹⁰ Zamzam Alamki, 'The Influence of Culture on the Successful Implementation of ICT Projects in Omani E-government' (DPhil thesis, Trinity College Dublin 2018). See also: Mekhmonov Sultonali and Temirkhanova Jurayevna, 'Actual issues of electronic commerce development in the republic of Uzbekistan' (2020) 3(1) *International Journal of Financial Management and Economics* 39.

study will be electronic commerce transactions between companies and consumers. However, reference will also be made to other types of transaction, such as B2B (Business-to-Business), C2B (Consumer-to-Business), G2B (Government-to-Business), and C2G (Consumer-to-Government). In order to achieve the research goals, the researcher will employ a semi-structured interview with the main stakeholders in electronic commerce, namely government, consumers and business. In addition, the research will concentrate on privacy because of the threat posed by new e-commerce technologies to the integrity of private personal data. In view of the above, the current thesis identifies a number of aims and questions that are set down in the following subsections.

1.4 Aims and objectives of the Research:

1. To identify the current limitations in the legislative framework in Oman that impede the development of the electronic commerce sector.
2. To identify the obstacles that currently prevent consumers from providing their personal data in electronic commerce transactions.
3. To identify the current legislative frameworks that impede the development of electronic commerce from the perspective of its main stakeholders.
4. To discover how the current legislative framework can be improved to enhance consumer protection in the context of electronic commerce transactions.

1.5 Research Questions

The main research question is:

1. What are the implications of current privacy regulations for electronic commerce in Oman and in which ways can privacy regulations be improved to promote the growth of electronic commerce in Oman?

In order to address this question, the following sub-questions will be considered:

1. Do data protection concerns in Oman impede the development of electronic commerce?
2. What are the obstacles to the growth of electronic commerce in Oman?
3. What are the current deficiencies within Omani regulation regarding privacy issues and the electronic commerce sector?
4. What are the perceptions of the main stakeholders regarding privacy regulation and what implications do these have for the growth of electronic commerce?

In order to answer these questions, the current study adopted grounded theory as a research method for exploring electronic commerce, particularly concerning privacy issues in Oman. This methodology enabled the researcher to examine privacy concerns from the perspective of the main stakeholders in electronic commerce: consumers, businesses, and government.

1.6 Why the Sultanate of Oman?

There is a dearth of studies dedicated to electronic commerce within Oman, particularly with a specific focus on legislation regarding consumer data protection in the context of electronic commerce transactions. Therefore, it is important to conduct research to identify the data protection gaps in the current legal framework in Oman.

The implementation of electronic government and electronic commerce within Oman began in 2003 and remains in its early stages. The main aims driving Oman's electronic government vision are: (1) diversification of the economic base away from dependency on oil to develop a sustainable economy; (2) to balance public income and expenditure; (3) to develop human resources through education and health to ensure the stability of per capita income and double its value; and (4) to develop and support the private sector in leading economic development and growth through a long term development strategy, as well as to support information and communications technology.

The practical implementation of this vision took place in 2010. Furthermore, as stated above, existing studies do not sufficiently cover privacy as a factor affecting the development of the electronic commerce sector in Oman.

1.7 Research Motivation and contribution

Yanis and Nicole underscore the need for companies and governments to find means of adequately safeguarding consumer privacy as privacy is something about which individuals care a great deal.¹¹

In another study, Khasib al-Rawahi et al stress that Omani consumers' behaviour in e-commerce contexts affects the growth of the electronic commerce sector and they study argue that mobile payment providers must take a flexible approach to accommodate the special needs of different consumer groups such as the elderly, working-age adults, and the young. In concrete terms, electronic commerce companies should provide adequate protection for consumers when they shop online.¹²

Chakrabarti and Kumar Ray also stress the need to develop and organize a legal framework to deal with the challenges posed by artificial intelligence. In other words, governments should legislate and set appropriate standards. In order for legal professionals to to recognise and manage any potential risks arising from the use of artificial intelligence technology, they should be able to refer to appropriate laws and standards and should, in addition, educate themselves AI and the implications of its use.¹³

¹¹ Yannic Meier and Nicole C Krämer, 'A longitudinal examination of Internet users' privacy protection behaviors in relation to their perceived collective value of privacy and individual privacy concerns'[2023] new media and society 1.

¹² Mohamed Musallam Khasib Al Rawahi, Hooi Cheng Eaw and Garry Wei Han Tan, 'What is Stopping You from Using Mobile Payment in Oman?' (Conference held in Oman on 10th – 11th February 2023) <<https://easychair.org/smart-slide/slide/hTxq#>> accessed 15 March 2023.

¹³ Soumyadeep Chakrabarti and Ranjan Kumar Ray, 'Artificial Intelligence and The Law' (2023) 14(2) Journal of Pharmaceutical Negative Results 87.

However, most of the published research that has been published on privacy in Oman is restricted solely to one viewpoint: that of consumers,¹⁴ companies¹⁵ or the government.¹⁶ The value of this research is that it discusses privacy concerns from the perspective of all three sets of stakeholders.

Undoubtedly, one of the difficulties of regulating the electronic commerce sector and providing adequate and appropriate legal protection for consumers and their personal data arises from the asynchrony between, on the one hand, the rapidness of developments in information technology and, on the other hand, the sluggishness of bureaucratic legislative procedures.¹⁷ However, the level of legal protection for consumers is a key factor affecting both the development of the Omani electronic commerce sector and the willingness of Omani consumers to shop online.¹⁸ The need arises, therefore, for integrated legislation to alleviate fears concerning the protection of personal data in electronic commerce settings. Most studies on the case of Oman within the research literature focus on the lack of legislative provision in relation to the

¹⁴ Leandro Pereira and others, 'Internationalisation business strategy via e-commerce' (2023) 17 (2) *International Journal of Business and Systems Research* 225. And see also (Veena Tewari and Rima Solanki, 'A Study on Online Shopping Behavior of Customers with Special Reference to Al Dhahira Region in the Sultanate of Oman' (2022) 9 (1) *SSRG International Journal of Economics and Management Studies* 9.)

¹⁵ Carol Baker and Others, 'Why Digital Forensics and Incident Response must go remote What CIOs Need to Know about Zero Trust Overcoming the Barriers to Automating Your Cybersecurity Knowledge Graphs Push the Boundaries of Data Science With Great Power, Comes Great Responsibility (and Cooling) ' (2019) 19(3) *Journal of Interactive Advertising* 187.

¹⁶ Ahmed Al Sulaimani and Wilson Ozuem, 'Understanding the role of transparency participation, and collaboration for achieving open digital government goals in Oman' [2022] *University of Cambria* 1.

¹⁷ Azmi, Ida Madieha, Abdul Ghani and Jeong Chun Phuoc, 'International norms in regulation e commerce: the electronic commerce chapter of the comprehensive trans- pascific partnership agreement' (2020) 21(1) *International Journal of Business and Society* 66.

¹⁸ Rakesh Belwal, Rahima Al Shibli and Shweta Belwal, 'Consumer protection and electronic commerce in the Sultanate of Oman' (2020) 19(1) *Journal of Information, Communication and Ethics in Society* 38.

protection of consumers and their personal data, as well as intellectual property rights.¹⁹ Some of these studies argue that this is ultimately due to the lack of a developed infrastructure in the information and communication technology sector, which, in turn, is responsible for the lack of development of the electronic commerce sector.²⁰ Other studies identify a lack of awareness on the part of consumers and the absence of training and education regarding electronic commerce as factors hindering the development of the sector in Oman.²¹ However, there are no studies from a legal perspective of the implications of the privacy concerns of stakeholders companies, consumers and government for the development of the electronic commerce sector. The aim of this research is to interrogate whether the law as it currently stands in Oman provides adequate and appropriate legal protection such that personal data might be protected and the current obstacles facing the electronic commerce sector might be overcome.

The value and importance of this study is that it seeks to accurately understand and explore the impact of privacy regulation from the point of view of consumers, companies and government. Several studies attempt to identify the factors that affect the development of the electronic commerce sector in Oman²² and focus on those factors

¹⁹ Shouvik Sanyala and Mohammed Wamique Hisamb, 'Factors Affecting Customer Satisfaction with Ecommerce Websites-An Omani Perspective' (2019 International Conference on Digitization (ICD) IEEE, 2019) 232 ; See also Ahmad ALShatat, 'Factors affecting the adoption and usage of online services in Oman' (2017) 22(S7) Journal of Internet Banking and Commerce 1 ; See also Rakesh Belwal, Rahima Al Shibli and Shweta Belwal, 'Consumer protection and electronic commerce in the Sultanate of Oman' (2020) 19(1) Journal of Information, Communication and Ethics in Society 38.

²⁰ Rafi Ashrafi and Muhammed Murtaza, 'Use and impact of ICT on SMEs in Oman' (2008) 11(3) Electronic Journal of Information System Evaluation 125.

²¹ Ahmad ALShatat, 'Factors affecting the adoption and usage of online services in Oman' (2017) 22(S7) Journal of Internet Banking and Commerce 1.

²² Shouvik Sanyala and Mohammed Wamique Hisamb, 'Factors Affecting Customer Satisfaction with Ecommerce Websites-An Omani Perspective' (2019 International Conference on Digitization (ICD) IEEE, 2019) 232; See also Ahmad ALShatat, 'Factors affecting the adoption and usage of online services in Oman' (2017) 22(S7) Journal of Internet Banking and

that hinder the sector's growth. Most of these studies focus on technical issues, consumer behaviour in electronic commerce contexts, consumer protection from a legal perspective and the lack of appropriate banking services. The core issue, however, is the asynchronous gap between the rapid development of internet-based services, and the lengthy task of codifying and normalizing new laws to regulate such services. This is not to deny the importance of other factors such as the absence of supportive banking services that protect consumers and their data from fraud. This obviously serves to undermine consumers' trust in online retail operations. However, the research literature does not devote adequate attention to the inadequacies of the current legislative framework in regulating the electronic commerce sector and the necessity of enacting appropriate laws to fill this gap. Therefore, this study will attempt to provide new perspectives on and insights into the obstacles that stand in the way of the growth of the electronic commerce sector.

The lack of legally-oriented studies on the impact of deficiencies in privacy and electronic commerce laws and their negative consequences for the development of the electronic commerce sector prompted the researcher to conduct this research to explore and address these deficiencies. With that in mind, this research will focus on privacy as a primary obstacle to the development of electronic commerce in Oman. In concrete terms, it will explore the current legal environment in terms of consumer protection in the context of electronic commerce and its impact on both the development of the electronic commerce sector and consumer confidence in internet-mediated transactions.

At the time of writing and to the best of the researcher's knowledge, there is no legal study of the impact of privacy on the development of electronic commerce which uses

Commerce 1; see also Rakesh Belwal, Rahima Al Shibli and Shweta Belwal, 'Consumer protection and electronic commerce in the Sultanate of Oman' (2020) 19(1) *Journal of Information Communication and Ethics in Society* 38.

grounded theory as a research methodology. Through this methodology, the researcher will be able to explore the current effects of privacy laws on the electronic commerce sector in Oman. This will be achieved by studying this phenomenon from the viewpoint of the main stakeholders in electronic commerce, which is to say, companies, consumers, and the government.

The empirical focus of this study will be on electronic transactions conducted between consumers and businesses (C2B) and, when necessary, addressing nature of the business-to-consumer (B2C) relationship in order to clarify the research question. To this end, this study will propose legal standards that might be adopted to protect parties to electronic transactions in order to encourage and improve the level of trust, safety and protection within electronic commerce contexts.

This study will also scrutinize and discuss the current legislative framework that regulates the electronic commerce sector in Oman, as well as the issue of personal data protection. In addition, a critical analysis will be conducted of the current Omani Electronic Transaction Law No. (69/2011) and its effects on the development of the electronic commerce sector in Oman.

In addition, to the Omani Electronic Transactions Law No. (69/2011), other Omani laws such as the Telecommunications Law No. (30/2002), the Omani Constitution No. (6/2021), the Penal Law No. (7/2018) and the Cybercrime Law No. (12/2011) will also be scrutinized as part of the research as they include related provisions that regulate the right to privacy.

1.8 Thesis structure

The research will be divided into two main parts. The first consists of a review of the research literature on the subject of electronic commerce as a theoretical background to the research, which will be explored and elaborated in chapters two, three, and four. The

second part will document the empirical study conducted by applying a grounded theory methodology. Concretely, this involves data collection via semi-structured interviews in order to define and describe the actual, on-the-ground situation in Oman. The main goal is to investigate the impact of privacy regulation on the growth of electronic commerce. This will be done by analysing the collected data to gain a deep understanding of the current phenomenon in Oman.

This thesis is divided into nine chapters.

Chapter 2

This chapter provides an in-depth description of electronic commerce, its benefits and the barriers to its growth. It also discusses the various ways in which data protection is violated. In addition, this chapter clarifies the impact of data protection issues on electronic commerce activities: they inhibit online transactions in general and the development of electronic commerce in particular.

Chapter 3

This chapter discusses the concept of the digital age, the definition of privacy in law, and the nature of privacy in Islamic culture. In addition, it explores the relationship between privacy and personal information in parallel with threats to privacy.

Chapter 4

This chapter discusses the development of the Information and Communications Technology (ICT) sector in Oman and its role in the implementation of electronic commerce. It also discusses Oman's efforts to implement electronic commerce technology reviews the factors affecting its implementation in Oman, and assesses the extent to which information privacy is one of those factors.

Chapter 5

This chapter discusses the different methods and methodologies used to explore the current literature on the main stakeholders in Omani electronic commerce: customers, companies, and governmental agencies.

Chapter 6

This chapter analyses the data collected over the course of the study's empirical work and addresses the research questions and objectives, especially in the context of electronic commerce and its relation to privacy in Oman. In this context, the chapter also analyses privacy as the key factor affecting the implementation and growth of electronic commerce in Oman and analyses data on other factors affecting it.

Chapter 7

This chapter reveals the findings of the analysis of the interview data, determines the factors influencing data protection within the Omani context, and characterises the relationship between data protection and these factors. For example, lack of trust, privacy, security, awareness, knowledge, education, computer literacy, experience and confidence are all factors that might affect consumer attitudes to electronic commerce.

Chapter 8

This chapter discusses the findings of chapter 8 and concludes that, within the Omani context, privacy concerns constitute one of the main drawbacks hindering the implementation and development of electronic commerce.

Chapter 9

This chapter sets down a proposal to reform the current Electronic Transactions Law (69/2008) in Oman. This reform seeks to create a legislative framework that strikes a balance between the interests of the main stakeholders in electronic commerce transactions, namely consumers, companies, and the government. Finally, the chapter presents important recommendations in the context of Oman based on the research findings and conclusions.

Chapter 2 Electronic Commerce

2.1 Introduction

The main object of this chapter is to examine the factors that prevent countries from reaping the benefits of electronic commerce. To this end, the chapter will determine the extent to which privacy is an impediment to the implementation of electronic commerce; this addresses the first sub-question of the research. The chapter will also present a definition of electronic commerce, survey its various forms, as well as identify the benefits of and barriers to electronic commerce.

Modern communication and information technologies can enable change in organizational structures and business processes, and they influence the competitive advantage of firms.²³ Any history of the development of electronic commerce will cite two technologies of the 1960s, namely:²⁴ (1) electronic data interchange (EDI) which enables the electronic transfer of business documents from one computer to another using an agreed standard to structure the information;²⁵ and (2) electronic funds transfer (EFT).²⁶ When the internet revolution made accessible and participatory networked computing available to ordinary households by 1995, it became possible to leverage these two formats for commercial purposes.²⁷ The growth of the internet and the wide

²³ Achsanul Qosasi and others, 'The Impact of Information and Communication Technology Capability on the Competitive Advantage of Small Businesses' (2019) 10(1) *International Journal of Technology* 167.

²⁴ Paul Hart and Carol Saunders, 'Power and trust: Critical factors in the adoption and use of electronic data interchange' (1997) 8(1) *Organization science* 23.

²⁵ Tobias Schoenherr, *The Evolution of Electronic Procurement* (Springer 2019) 33.

²⁶ Chris Leach, 'A History of Electronic Funds Transfer (EFT) And Alcohol Payments: Why It's Beneficial Now' (*iControl*, 19 October 2017) <<https://www.icontroldata.net/blog/a-history-of-electronic-funds-transfer-eft-and-alcohol-payments-why-its-beneficial-now>> accessed 18 August 2021.

²⁷ Barry M. Leiner and others, 'A brief history of the Internet' (2009) 39(5) *ACM SIGcomm Computer Communication Review* 22.

dissemination of information technologies enabled businesses to enhance and expand their activities. Concretely, it gave companies new avenues through which to market and retail goods and services as well as new ways of doing business.²⁸ It also helped them to improve the quality of their services.²⁹ At the macroeconomic level, electronic commerce is one example of the ways in which information and communication technology boosts economic growth.³⁰ According to the Organisation for Economic Co-operation and Development (OECD), electronic commerce began as a tool for use in daily business operations. From its initial deployment in marketing and commercial promotion, it evolved for use in most daily business operations.³¹

It was evident at an early stage that electronic commerce would be the engine of economic growth in the 21st century.³² It was also clear from the spread of electronic commerce activities that consumers were prepared to waive certain rights to the privacy of their data. Consumers are now habituated to revealing critical pieces of personal information in the course of online transactions that they are encouraged not to disclose to others in other contexts³³. In other words, electronic commerce consumers have lost ownership and control over their data and have to pay a heavy price if the privacy of

²⁸ Ibid 12.

²⁹ Amonrat Thoumrungroje, 'A Cross-National Study of Consumer Spending Behavior: The Impact of Social Media Intensity and Materialism' (2018) 30 *Journal of International Consumer Marketing* 276.

³⁰ Raef Bahrini and Alaa Qaffas, 'Impact of Information and Communication Technology on Economic Growth: Evidence from Developing Countries' (2019) 7 *Economies* 21.

³¹ OECD, 'Economic and Social Impact of E-commerce: Preliminary Findings and Research Agenda' (OECD Digital Economy Papers, No. 40, OECD Publishing, Paris 1999) < www.oecd-ilibrary.org > accessed 18 August 2021

³² 'U.S.-Oman Free Trade Agreement: Potential Economy-Wide and Selected Sectoral Effects' (*Usitc.gov*, 2006) <<https://www.usitc.gov/publications/docs/pubs/2104f/pub3837.pdf>> accessed 17 August 2021.

³³ Shintaro Okazaki and others, 'Understanding the strategic consequences of customer privacy concerns: A meta-analytic review' (2020) 96 (4) *Journal of Retailing* 458.

their personal data is compromised.³⁴ To mitigate the risk of this, companies have recourse to (ASC X12), a universal standard developed by the American Standards Institute in 1979 which enables businesses to share documents through electronic networks.³⁵ In the 1990s, the rise of both EBay and Amazon revolutionised the electronic commerce sector.³⁶ Electronic businesses have re-invented ways of working in both the public and private sectors by embedding information technology (IT) into businesses.³⁷ Nowadays, access to the internet is a basic everyday necessity for individuals and organisations and companies in almost every sector of the economy have digitalised their business operations. It can be plausibly claimed that the contemporary era is fundamentally digital: banking transforms itself into e-banking, education into e-learning, and so on. The sale and purchase of goods and services, i.e. commerce, has also transformed itself into electronic commerce mediated by computer technology and networks.³⁸

Consequently, a balance needs to be struck between the interests of businesses and consumers to address conflicts of interest and encourage both to accept and participate in online transactions. The following section will discuss the various ways in which electronic commerce is defined within the research literature.

³⁴ Ruwan Bandara, Mario Fernando and Shahriar Akter, 'Addressing privacy predicaments in the digital marketplace: A power-relations perspective' (2020) 44(5) *International Journal of Consumer Studies* 423.

³⁵ Aparna Miglani, 'E-Commerce and its impact on Indian and global market' (2017) 4(12) *International Research Journal of Engineering and Technology* 19.

³⁶ Nuray Terz, 'The impact of e-commerce on international trade and employment' (2011) 24 *Procedia-social and behavioral sciences* 745.

³⁷ Kenneth C. Laudon and Carol Guercio Traver, *E-commerce: business, technology, society* (1st Edition, Addison-Wesley Pub 2002) 10.

³⁸ *Ibid* 11.

2.2 Defining Electronic Commerce

To define electronic commerce in the most basic terms would be to state that it involves the trading of products and services between businesses, consumers and government mediated solely by computer networks and without recourse to any analogue means of interaction³⁹. In the real world, however, electronic commerce is defined and understood in a number of contextually determined ways.⁴⁰ Definitions are derived from context, as it is a constructive element of electronic commerce particularly for those scholars who define it as the electronic exchange of goods and services.⁴¹ It improves services for consumers whilst providing opportunities to reduce costs through collaborative partnerships between trading businesses.⁴²

Yastrebov and Fetisova define electronic commerce from an economic and social perspective: “The term electronic commerce has no widely accepted definition. In a broad sense, it means doing business over the Internet, selling goods and services, which are delivered offline as well as products, which can be “digitised” and delivered online, such as computer software”.⁴³

³⁹ Metka Stare, ‘The Scope for E-Commerce in Central and Eastern European Countries’ Services Trade’ (2003) 23(1) *The Service Industries Journal* 27.

⁴⁰ Elizabeth E. Grandón and J. Michael Pearson, ‘Electronic Commerce Adoption: An Empirical Study of Small and Medium US Businesses’ (2004) 42(1) *Information & management* 197.

⁴¹ Martin L. Jakson, ‘Model Development for The Adaption of Technology: Electronic Commerce in the construction Industry’ (DPhil thesis, University of Wolverhampton 2007) 46.

⁴² *Ibid* 13.

⁴³ A. P. Yastrebov, L. V. Rudakova and L. G. Fetisova, ‘Improvements in Economy Digitization Quality Based On Innovative Technologies in E-Commerce’ (2020) 10 (3) *European Proceedings of Social and Behavioural Sciences* 1170.

However, there is no agreement about what constitutes a narrow as opposed to a broad definition of electronic commerce.⁴⁴ In the following section, an overview will be given of the debate of jurists and legislators concerning the definition of electronic commerce alongside a discussion of the degree to which the definition's shortcomings has affected electronic commerce implementations. Moreover, the focus will be on the most widely accepted definitions among jurists in the Arabic-speaking world and OECD countries and, in addition, on certain comments made on these definitions. It is essential to present a comprehensive definition of electronic commerce in a way that addresses it from legislative and jurisprudential perspectives. This is because the current research is based on the view that any adequate definition of electronic commerce must make explicit that the electronically mediated sharing of personal data is a core element in electronic transactions. It follows from this that any transactions that do not involve the electronic sharing of personal data are traditional commerce phenomena and not electronic commerce transactions.

2.3 Definition of Electronic Commerce from a Jurisprudential Perspective

The term electronic commerce is continuously evolving in tandem with the development of modern technology.

Developments in social platform technologies, in particular, have resulted in significant electronic commerce developments.⁴⁵ Lawyers, merchants, and other specialists explain and define electronic commerce from their own professional perspective, that is to say, in terms of the ways in which electronic commerce is used within or mediates their

⁴⁴ United States General Accounting Office, 'International Electronic Commerce Definitions and Policy implications' <<https://www.hsdl.org/?abstract&did=437517>> accessed 6 September 2020.

⁴⁵ Farid Shirazi and others, 'The Importance of Trust for Electronic Commerce Satisfaction: An Entrepreneurial Perspective' [2020] *British Food Journal* 789.

daily professional activities.⁴⁶ This section attempts to document a number of legal definitions of electronic commerce.

2.4 The Concept of Electronic Commerce in Jurisprudence

Electronic commerce requires the sharing of information by means of telecommunication networks in order for transactions to be completed⁴⁷. That is to say, in order to complete an online transaction, one must provide personal data through the Internet, such as name, address and bank account details. It follows from this that, if a consumer conducting a transaction is concerned that the privacy of their personal information might be compromised, they will lack confidence in the online payment system in question, withhold their personal data, and the transaction will not complete.

European jurisprudence narrowly defines electronic commerce as the conducting of commercial transactions via electronic means and is indifferent to the identity of the market agents (partners, or a company and its clients) and the goods and services exchanged (such as consumables, propaganda, promotion, services, and commercial agreements of any kind).⁴⁸

Furthermore, electronic commerce from this perspective covers only the ordering of goods and services over computer networks; the payment and delivery of the goods and service may be expedited either online or offline.⁴⁹

Authors consciously refer to digital processes in the abstract because electronic commerce is not specific to a particular communications network such as the TCP/IP-

⁴⁶ Abdu Basit Juma'ei, *Evidence of Legal Actions via the Internet* (Dar Al- Nahda Al- Arabiya 2000) 12.

⁴⁷ Zwass Vladimir, 'Electronic Commerce: Structures and Issues' (2015) 1(1) *International journal of electronic commerce* 3.

⁴⁸ Eurostat Statistics Explained, 'Glossary: E-commerce' < Glossary: E-commerce - Statistics Explained (europa.eu) accessed on 28/5/2022.

⁴⁹ *Ibid.*

based internet.⁵⁰ It is difficult to predict whether the world wide web will remain the only prevailing global communication network, or whether rival networks will threaten it in the future. Given the rapid pace of information technology (IT) development, any such future rival would no doubt be faster and more efficient in communicative terms.⁵¹ It is preferable, therefore, that any definition of electronic commerce is not limited to transactions between particular parties, such as trade partners or companies and their clients. Any definition which specifies a particular type of transaction or networked medium will thereafter limit electronic commercial transactions to those conducted between companies and between companies and their clients,⁵² and will exclude other relationships that might arise because of the emergence of new types of market agents within networks, be they corporate entities or individuals.⁵³

It follows from this that, to qualify as an electronic commerce transaction, it would be sufficient for it to involve electronic communication (to inquire about a product or service) between an individual or company and another company.

Within jurisprudence, electronic commerce has also been defined as “a trade which includes three different types of transactions: providing internet services, electronic delivery of services (delivering service transactions to consumers in the form of digital information) and using the internet as a channel for distributing services through which

⁵⁰ Ibid 91.

⁵¹ Ramendra Nath and others, ‘Electronic commerce and the Internet: issues, problems, and perspectives’ (1998) 18(2) International journal of information management 91.

⁵² Azab Alaziz Alhashemi, ‘International Arbitration Between the Risks of Traditional Commerce and Electronic Commerce’ (2019) 1(8) Academic Journal of Research and Scientific Publishing 3.

⁵³ Ibid 237.

goods are purchased via the network and then delivered to the consumer in a non-electronic form”.⁵⁴

For Ahmed Abdel-Khaleq, this represents an enlarged conception of electronic commerce,⁵⁵ as the basic criteria for defining the commercial function are limited to four: trade or profit seeking, exchange, contracting, and commercial professions. However, this definition limits rather than extends the concept of electronic commerce because, as a field and by its very nature, it is constantly evolving and giving rise to new types of exchange and transaction. For this reason, the development of a broader definition of electronic commerce, which captures this open-endedness, would be a positive step forward in legal academic discourse.

Nevertheless, this definition is a step in the right direction because it recognises that some goods and service such as legal or medical consultations, downloadable media and software, or even book contents can be electronically delivered. In other words, definitions should not specify, as some in fact do, that delivery must be non-electronic.

Ahmed Abdel-Khaleq defines electronic commerce as “a concept of the process of selling, buying, or exchanging products, services, and information through internet computer networks.”⁵⁶ This definition is aimed to be comprehensive with regard to most components of electronic commerce. Indeed, it encompasses all forms of traditional trade conducted via computer networks and, furthermore, includes all business activities involving the exchange of commodities and services exchanged over the internet or

⁵⁴ Ahmed Abdel-Khaleq, *Electronic Commerce and Globalization* (The Arab Organization for Administrative Development 2006) 32.

⁵⁵ *Ibid* 301.

⁵⁶ *Ibid* 73.

other computer networks between companies or companies and clients. In other words, electronic commerce includes both marketing and retail.⁵⁷

Electronic marketing is information or data provided to clients that they require conducting a commercial transaction.⁵⁸ It is the technological infrastructure needed for exchanging data and expediting the purchase of goods and services over the internet; it provides consumers with the electronic means to source, purchase and secure delivery of goods and services.⁵⁹ The main problem with this definition is that it limits the client-side user device to the computer at a time when a third generation of mobile phones have processing powers comparable to desktop and laptop devices. Indeed, smart phones are typically as expensive as computers and some models are more expensive. These devices comfortably support web browsing, downloading and other processes that make electronic commerce possible on the client side.

⁵⁷ Yannis Bakos, 'Information links and electronic marketplaces: the role of interorganizational information systems in vertical markets' (1991) 8(2) *Journal of management information systems* 31.

⁵⁸ Richa Misra, Renuka Mahajan and Nidhi Singh, 'Understanding Factors Affecting Receptivity Towards Adopting Electronic Marketplace: A Merchant Perspective' (2020) 12(1) *e-Service Journal* 1.

⁵⁹ Yakov Bart and others, 'Are the drivers and role of online trust the same for all web sites and consumers? A large-scale exploratory empirical study' (2005) 69(4) *Journal of Marketing* 141.

2.5 Definitions of Electronic Commerce by Discipline

This section documents definitions of electronic commerce that are specific in one of three ways: field of specialization, components of electronic commerce, or parties to electronic transactions.

1- In communications, electronic commerce is defined as “a means for conveying information, services, or products over telephone lines, computers, or any technological means”.⁶⁰

2- In commercial transactions, electronic commerce refers to “the process of applying technology for making commercial transactions function in a fast, automatic manner”.⁶¹

3- In services, electronic commerce is defined as: “a means for meeting desires by companies and consumers to reduce costs and accelerate service delivery”.⁶²

These definitions can be divided with respect to their methodology: definition (1) treats electronic commerce the point of view of communications; definition (2) does so from the perspective of electronic transactions; and definition (3) does so from the perspective of services. These examples illustrate the ways in which the definition of electronic commerce shifts in step with changes in legal, technological, and technical perspectives. It is clear from this that electronic commerce is a variable, complex term that evolves in response to economic, financial, and technical developments, and perhaps also to changes in the cultural and cognitive context.

Following this survey of different definitions, electronic commerce can be defined as: “all commercial activities conducted by using information technology via a global

⁶⁰ Mohammed Al Sirafi, *Electronic Commerce* (Horus Al Dawlya for Publishing and Distribution 2009) 17.

⁶¹ Ibid 18.

⁶² Ibid 21.

communications network, using electronic exchange of personal data to execute such commercial transactions; whether conducted among individuals and agencies, or on the domestic/international level”.⁶³

Due to the continuous development of electronic commerce, even in developed countries, which are decades ahead of Arab countries not only in terms of knowledge and technology but also in the degree to which electronic commerce is used, there is no single widely accepted, comprehensive definition. Rather, different fields of activity define electronic commerce from their field of jurisprudence defines electronic commerce from its own disciplinary perspective and in terms of its goals and the nature of its day-to-day business.⁶⁴

Nevertheless, jurists have invested considerable effort in order to arrive at a comprehensive definition of electronic commerce. This is an index of the importance of the task since a widely accepted, comprehensive definition would identify electronic commerce unambiguously and underpin electronic commerce infrastructure in ways that would lift obstacles to its success and development. For the purposes of this research, the definition and the centrality it accords to the exchange of personal data as a pillar of electronic commerce are particularly important.

⁶³ Amer Mohammed, *Electronic Commerce* (Al A'rabi Print House for Publishing 2006) 122-123.

⁶⁴ Muhammad Al-Tai, *Electronic commerce, the promising future for future generations* (Dar Al-Thaqafa for Publishing and Distribution 2010) 19.

2.6 The UN Definition

The United Nations was a pioneer in modelling legislation for electronic commerce since it recognised at an early stage the critical role that would be played by electronic commerce in the future of individuals and nations. This work was delegated to the United Nations Commission on International Trade Law (UNCITRAL) and this body published its *Model Law on Electronic Commerce* on 16 December 1996.⁶⁵

As a pioneer in enacting a model electronic commerce law, the UN was expected to devise a fully universal definition of electronic commerce. Yet, it is clear that the UN model law lacks this, notwithstanding the fact that the first paragraph of the second article states that the term “Electronic Data interchange” is the electronic transfer of information from one computer to another by using an approved information format.⁶⁶

The definition that the UN does use broadens the range of media used for the transfer and exchange of data and information; by contrast, electronic commerce definitions published by several national bodies specify the internet as the sole medium of exchange. In defining a data message, Article2(a) of the UN’s model law states that it refers to “information generated, sent, received or stored by electronic, optical or similar means including, but not limited to, electronic data interchange (EDI), electronic mail, telegram, telex or telecopy”.⁶⁷ This definition takes into account potential future technologies for data transfer and refers to messaging protocols (such as email) rather than the internet in the expectation that rival networks will emerge.

⁶⁵ Soliman Ahmed Fadl, *Disputes Arising from Electronic- Commerce Contracts in the Light of the Specific International Law* (Dar Al Nahda Al A'rabiya 2011) 17-21.

⁶⁶ UNCITRAL Model Law on Electronic Commerce with Guide to Enactment 1996 with additional article 5 adopted in 1998.

⁶⁷ *Ibid.*

However, by specifying that data interchange be electronic, this definition narrowly limits it to computer-to-computer exchange.⁶⁸ This is a drawback in a contemporary context characterised by developments in artificial intelligence and the emergence of new devices that do not resemble computers.⁶⁹

2.7 EU definition of electronic commerce

The European Union (EU) is a leading international regulatory authority and one of the first to address the phenomenon of electronic commerce and related revolutionary technologies.⁷⁰

Since the EU is a customs union in which member states trade freely with one another, it legislated to remove all legal obstacles to the interchange of electronic commerce among its member states.

Directive 31/2000 organizes a legal framework for networked information services, particularly electronic commerce in domestic markets (The “electronic commerce directive”). Article (2) section (f) of the directive defines commercial communication as “any form of communication designed to promote, directly or indirectly, the goods, services or image of a company, organization or person pursuing a commercial, industrial or craft activity or exercising a regulated profession. The following do not in themselves constitute commercial communications: a) information allowing direct access to the activity of the company, organisation or person, in particular a domain name or an electronic-mail address, b) communications relating to the goods, services or

⁶⁸ Xia Song and others, ‘The Application of Artificial Intelligence in Electronic Commerce’ (2019) 1302(3) *Journal of Physics: Conference Series* 1.

⁶⁹ *Ibid* 2.

⁷⁰ Metka Stare, ‘The scope for E-commerce in central and eastern European countries’ services trade’ (2003) 23(1) *The Service Industries Journal* 32.

image of the company, organisation or person compiled in an independent manner, particularly when this is without financial consideration”.⁷¹ This definition corresponds to the nature and domain of electronic commerce, without being limited to goods and services as stated in EU directive no (7/97).

2.8 OECD definition of electronic commerce

The Organization for Economic Co-operation and Development (OECD) defines electronic commerce as “all forms of transaction relating to commercial activities, including both organization and individuals, that are based upon the processing and transmission of digitised data, including text, sound and visual image”.⁷² It goes on to add that the category includes “generally all types of commercial transactions conducted, between departments or individuals via electronic data processing; by such data as are written, audible, or visual”.⁷³

The OECD definition of electronic commerce is broad enough to include future technological developments in electronic commerce. By way of example, it uses qualifiers such as “whether written” to describe transaction-related information which can encompass outputs from a range technologies such as computers, fax machines and videotex systems such as Minitel (France)⁷⁴, Viditel (Netherlands)⁷⁵, and Prestel

⁷¹ Directive 2000/31/EC of the European Parliament and of the Council. Of 8 June 2000. On certain legal aspects of information society services in particular electronic commerce, in the Internal Market (Directive on electronic commerce) 2000 electronic commerce 31.

⁷² OCED (USA), ‘Defining and measuring e-commerce Issues for discussion’ <<https://www.oecd.org/sti/ieconomy/2092477.pdf>> accessed on 12/11/2020.

⁷³ OCED, ‘Glossary of Statistics Terms’ < OECD Glossary of Statistical Terms - Electronic Commerce Definition> accessed on 28/5/2022.

⁷⁴ Julien Mailland and Kevin Driscoll, ‘Minitel: The Online World France Built Before the Web’ (*IEEE Spectrum*, 20 June 2017) <<https://spectrum.ieee.org/minitel-the-online-world-france-built-before-the-web>> accessed 16 August 2021.

(England)⁷⁶ (videotex systems were popular information services accessible through telephone lines and were precursors to internet services such as Gopher and the World Wide Web which superseded and replaced them). The OECD definition also encompasses audio information transferred via electromagnetic waves or other sound conveyors across landline phones, mobile phones, wireless radio devices, and so on. In other words, it includes any means through which information and data may be delivered in audio form.⁷⁷

The OECD definition is the culmination of the work begun in 1980 by its Directorate of Science and Technology. The directorate began by issuing directives regarding the protection of privacy and personal data flows across borders, published directives regarding information organization in 1992 and published further directives regarding coding policy in 1997.⁷⁸

It is clear from these examples that the OECD is preeminent in terms of investigating how electronic commerce affects economic activities and public policies, and in terms of conducting research and analysis concerning a broad range of issues. Through international gatherings and conferences, the OECD also provides a forum for discussing issues related to electronic commerce on behalf of different stakeholders

⁷⁵ Mode organisation <<http://text-mode.org/?tag=viditel>> accessed on 16 August 2022.

⁷⁶ Tom Lean, 'Prestel: The British Internet That Never Was' (*History Today*, 23 August 2016) <<https://www.historytoday.com/history-matters/prestel-british-internet-never-was>> accessed 16 August 2021.

⁷⁷ Mustafa Abu Omar, *Summary of Law Rules on Protecting Consumer* (Al Halabi Al Hokokia 2011) 111.

⁷⁸ John Dryden, 'Realising the potential of global electronic commerce' (1998) 5 (214) Organisation for Economic Cooperation and Development Observer 20.

such as national governments, international organizations and non-governmental organizations.⁷⁹

Some criticize the OECD for addressing the needs of only rich, industrialized countries because of their ability to use and develop modern technology.⁸⁰ However, it is evident that the attention devoted by the OECD to developments within such countries which are indeed the first users and beneficiaries of electronic commerce has allowed it to build a rich library of data, case studies and in-depth analysis on the subject of electronic commerce which represents a valuable resource that could potentially be made available to all countries whatever their level of development.⁸¹

2.9 Definition of Electronic Commerce from a Legislative Perspective

Western and Arab legislators have adopted different approaches to defining electronic commerce. The main point of contrast is that the latter, generally speaking, discuss its definition from a technological and commercial point of view.

It is worth noting here that, at a global level and in the west, legislative work initially concentrated on formulating definitions in the areas of electronic commerce, privacy, and personal data protection. Subsequently, laws at a national level are codified on the basis of pre-existing international models. Concretely, the OECD's *Guide to Electronic Commerce* (1999) and UNCITRAL's *Model Law on Electronic Commerce* (1996) serve as bases upon which legislators at a national level can codify laws for their domestic statute books within both western and Arab countries.

⁷⁹ Amer Mohammed, *Electronic Commerce* (Al A'rabi Print House for Publishing 2006) 61-63.

⁸⁰ Godwin Myovella, Mehmet Karacuka and Justus Haucap, 'Digitalization and economic growth: A comparative analysis of Sub-Saharan Africa and OECD economies' (2020) 44(2) *Telecommun Policy* 101856.

⁸¹ Naser Al Buraki, *Electronic Commerce Law in Oman* (Dar Al Nahdah Al Arabia 2017) 59.

However, it must be born in mind that there are clear differences between Arab and western legislation in this area and these are determined by differences of demography, infrastructure, logistics and legal, political and cultural tradition.

In most western cases, significant progress made in the areas of technology in relation to governance and integrity (personal data protection law, electronic commerce law, and effective protection by regulation backed up by penalties). This is one of the most important achievements made by the institutions of the EU to promote electronic commerce within its member states.

It is also important to acculturate people to electronic commerce and improve their understanding of it. The progress made in legislation supports this by improving efficiency and usability. Some western governments also promote the expansion of electronic commerce by encouraging enterprises and individuals to conduct more of their transactions online. To this end, a clear electronic vision improves user protection on websites and provides incentives for website users in the form of such things as lower prices.

The next section surveys definitions of electronic commerce in law in several Arabic-speaking countries and discusses the implications of these.

2.10 Legal Definitions of Electronic Commerce in Jordan and selected other Arabic-speaking countries

The main criterion for selecting the following case studies in the Arabic-speaking world is that they are bilingual Arabic-English countries. This made it easier for the researcher to address any queries or ambiguities that arose. The countries in question also have large populations and enjoy good diplomatic and trade relations with Oman. This prepares the ground for an effective comparison between Omani law and the law of other Arab countries who use UNCITRAL rules to model their legal frameworks for

electronic commerce and consumer protection. This requires an understanding of the particular ways in which countries have implemented UNCITRAL concepts in law. The final criterion for selecting the case studies is because they are multicultural countries characterised by economic and financial diversity and this will enrich the research.

Turning to the case of Jordan, its legislature did not adopt an expansive definition of electronic commerce. In chapter one of the Jordanian electronic commerce law No. (85/2001), electronic commerce is defined as “Exchanging commodities and services through electronic media”.⁸²

From this definition it is evident that, in Jordanian law, any commercial transaction conducted via electronic means constitutes electronic commerce.⁸³ It is agnostic with regard to both electronic media (such as internet or fax) and networks. From this perspective, electronic commerce may be conducted across the internet,⁸⁴ it might include a wide number of applications in the narrowband and offline environment as well as proprietary corporate networks.⁸⁵ However, some transactions require greater bandwidth and speed than others and the legal definition could have usefully addressed this.

⁸² Egyptian Electronic Commerce Law 2001.

⁸³ Moudi Almousa, ‘Barriers to E-Commerce Adoption: Consumers’ Perspectives from a Developing Country’ (2013) 5(02) iBusiness 65.

⁸⁴ Vladimir Zwass, ‘Structure and macro-level impacts of electronic commerce from technological Infrastructure to electronic marketplaces’ in Kenneth E. Kendall (ed), *Emerging Information Technologies: Improving Decisions, Cooperation, and Infrastructure* (Sage Publications 1999) 289.

⁸⁵ Tawfik Jelassi, ‘ICT in Tunisia: a strategic lever for building a knowledge-based economy’ [2010] The Global Information Technology Report 153.

2.10.1 Tunisia

Tunisia's electronic transactions law (83/2000) defines electronic commerce in article two as "commercial transactions that are accomplished using electronic exchanges".⁸⁶

The law defines electronic exchanges as "exchanges that are accomplished using electronic documents and files".⁸⁷ Clearly, Tunisian law gives a quite concrete meaning to electronic commerce, the media through which it is transacted, and the ways in which transactions are conducted. It also specifies that electronic exchanges are "transactions that shall be done by the use of electronic media that cannot be ignored at any stage of the traditional process".⁸⁸

It follows from this that the processes of offering products for sale (on the part of the retailer) and reviewing them (on the part of the customer, for informational purposes or with a view to purchase) shall both be expedited electronically. Further enquiries and negotiations shall also be mediated electronically. At the contracting stage when an offer is made and accepted, acceptance of the contract's terms and conditions shall also be conducted in the electronic medium. Even the details of delivery (shipping address, date and time of delivery and so on) shall be handled electronically to the extent that any goods shipped from production to distribution areas must be documented and communicated by an electronic bill of lading.

From the perspective of Tunisian law, therefore, any commercial exchange or transaction which is conducted partially via conventional, non-electronic market channels not simply does not count as electronic commerce.

⁸⁶ Tunisian Electronic Trade and Commerce 2000.

⁸⁷ Article 2 of Tunisian Electronic Trade and Commerce 2000.

⁸⁸ Chrisanthi Avgerou and Geoff Walsham, *Information technology in context: Studies from the perspective of developing countries* (Routledge 2017) 157.

It should also be noted that, in common with its Jordanian counterpart, Tunisian law does not prescribe specific electronic media or protocols for the conducting of electronic commerce.⁸⁹ It might be valuable to note that Tunisia's Electronic Transactions Law (83/2000) is considered one of the most pioneering laws in electronic commerce, particularly in Arab countries.⁹⁰ There are four reasons for this: (1) in April 2018, the Ministry of Communication Technologies and Digital Economy announced the gradual transition to mobile money-transfer services by telecom operators on the part of banks and postal accounts and, as a result, Tunisian consumption increased by 25% per annum across all consumer categories;⁹¹ (2) Tunisia was the first Arab state to formulate a legal framework to regulate electronic commerce; (3) the Ministry of Communication Technologies and Digital Economy initiated Tunisia's Digital Technology Charge Card Program to encourage government, retailers and consumers to transact online; and (4) the presence within Tunisia of mobile phone network providers, such as Ooredoo, Orange, and Tunisie Telecom, from which users can purchase data and phone services using domestic bank accounts or pre-paid mobile cards.

⁸⁹ Stephen Blythe, 'Computer law of Tunisia: Promoting secure e-commerce transactions with electronic signatures' (2006) 20(3) Arab Law Quarterly 240 -253

⁹⁰ Tawfik Jelassi, 'ICT in Tunisia: a strategic lever for building a knowledge-based economy' [2010] The Global Information Technology Report 153.

⁹¹ Tunisian International trade center <<https://www.trade.gov/country-commercial-guides/tunisia-ecommerce>> accessed 25 August 2021.

2.10.2 Sudan

Sudan enacted its Electronic Transactions Law in 2007 and Article (2) of the same defines electronic transactions as “relationships, financial actions, personal status, and all legal non-criminal matters, including individual acts or contracts which are wholly or partially made or executed via an electronic data message”.⁹²

Sudanese legislators broaden the concept of electronic transaction to encompass relationships, financial acts, and even personal status issues. At the same, they exclude transactions that violate the country’s criminal code.⁹³ However, is this definition too broad? For example, the legal text seems to allow that a legal summons might be considered an electronic transaction and the extent to which that is meaningful is questionable. In other words, it might be the case that the definition fails to set the boundaries of and enclose a set of communicative acts that an ordinary person would consider commercial. This risks giving rise to interpretative and practical problems when courts try to apply the law in real world cases.

2.10.3 Yemen

Although Yemeni law does not provide any legal doctrine of electronic commerce, and it was decided to include it as an example of countries that only define electronic commerce in the context of banking transactions. Yemeni law provides no definition of electronic commerce for the simple reason that legislators have not set up any legal framework for regulating it and this has legal and technical implications for electronic commerce.

⁹² The Electronic Transactions law 2007.

⁹³ Ibrahim Al Desouki, *Legal System of Electronic Transactions in the Arab World* (Arab Center for Legal Publishing 2011) 107.

However, Yemeni legislators did enact a law (40/2006) concerning payment systems, electronic finance and banking operations which defines electronic operations as "financial and banking processes executed or made via electronic means".⁹⁴

For Yemeni legislators, electronic operations fall strictly within the bounds of finance and banking and they make no reference to electronic commerce as a broader category of retail and retail-related activity.⁹⁵ They do not even define such operations as electronic transactions as do other national legislatures. This is an area of concern that lawmakers in Yemen will have to revisit sooner rather than later given the growing global importance of electronic commerce.⁹⁶ Yemen, with its unique geographic location, is particularly well-placed to take advantage of electronic commerce in ways that positively contribute to national growth and development and legislators and other state actors should address this issue as a matter of urgency.⁹⁷

A study by Mugaahed and Manjunath⁹⁸ investigates the extent to which small and medium-sized companies in Yemen are able to leverage the Internet for business purposes. The study deploys a descriptive methodology which surveys the following: Internet facilities available in Yemen; the low levels of technology usage in the enterprise; the level of use of Information Communication Technology (ICT) within organizations; the level of electronic commerce adopted; the main obstacles to the

⁹⁴ The electronic payment systems, electronic finance and banking operations Act 2006 (s1).

⁹⁵ Ebrahim EL- Essawy, *Electronic Commerce* (Academic Library 2003) 9-15.

⁹⁶ Upasak Bose, 'ICT, Marketing Technology and E-Commerce In Unstable Economic (Case of South Sudan, Syria Democratic Republic Of Congo, Yemen, Somali)' (2019) 1(5) International Journal Of All Research Writings 7.

⁹⁷ Ali Hussein Saleh Zolait, Abdul Razak Ibrahim and Ahmad Farooq, 'A Study on the Internet Security and its Implication for e-Commerce in Yemen' (2010) 1(3) International Journal of Technology Diffusion 34.

⁹⁸ Mugaahed Abdu Kaid Saleh and K. R. Manjunath, 'Moving towards digitalization in small and medium enterprises in least developed countries, Review of the case of Yemen' (2020) 6(8) International Journal for Modern Trends in Science and Technology 233

adoption of electronic commerce; and the measures required to increase the adoption of electronic commerce. The study finds that both government and private companies recognize the importance of electronic commerce for business but face obstacles that delay or prevent them from adopting it. They go on to identify these obstacles: discrepancies in the infrastructure; the high cost of the Internet facilities; bureaucratic hurdles that have to be cleared to procure these facilities; and the non-availability of a secure environment. Beyond concerns about Internet security, the awareness of security hazards and protection measures is minimal. In light of the data analysis, the study makes certain recommendations to interested authorities to improve electronic commerce in Yemen⁹⁹. These include: raising awareness of electronic commerce and its benefits through things such as educational IT workshop, and encouraging businesses to adopt technologies in their daily work. For decades, furthermore, the armed conflict in Yemen has created a favourable environment for arms trade and smuggling¹⁰⁰, and the fight against this waged by the security services is far from over. Because armed forces have transformed large swathes of the national territory into a battlefield, political energies have been drained that might have been productively directed to national economic development in general and electronic commerce in particular. It is imperative, therefore, that public and private sector actors cooperate to redirect energy towards peacetime endeavours such as digitalization and the establishment of a legal framework to support this.

⁹⁹ Mugaahed Abdu Kaid Saleh and K. R. Manjunath, 'Moving towards digitalization in small and medium enterprises in least developed countries, Review of the case of Yemen' (2020) 6(8) *International Journal for Modern Trends in Science and Technology* 233

¹⁰⁰ Helen Lackner, *Yemen in Crisis the Road to War* (Verso 2019) 238-239

2.10.4 Bahrain

In 2002, Bahraini legislators enacted an electronic commerce Law (28/2002) that contains no definition of electronic commerce.¹⁰¹ This could be due to the clear influence on the legislators of the UNCITRAL model law which does not itself define electronic commerce.¹⁰²

As previously discussed, this is not a shortcoming of the UNCITRAL model law since it deliberately grants national legislatures the space to formulate definitions that are specific and appropriate to their national contexts.¹⁰³ Thus, UNCITRAL rules have opened the door for states to articulate a comprehensive unified definition. Bahraini legislators, therefore, should revisit the issue, use the leeway granted to them by the UNCITRAL model, and formulate a clear and comprehensive definition of electronic commerce fit for the Bahraini context.

2.10.5 Oman

Oman established the Information Technology Authority by Sultanate Decree No. (56/2006). This led to the Omani Electronic Transaction Law, enacted by Sultanate Decree No. (69/2008). Its first article defines “electronic transaction” as any action or contract concluded or to be partially or wholly expedited by electronic messages.¹⁰⁴

The main disadvantage of the law is that it does not define electronic commerce; rather, it restricts itself to electronic transactions. This could be the result of vague conceptions of electronic commerce prevalent among legislators and state managers.

¹⁰¹ The Electronic commerce Act 2002.

¹⁰² Mohamed Meftah, Behrooz Gharleghi and Behrang Samadi, ‘Adoption of E-government among Bahraini citizens’ (2015) 11(4) Asian Social Science 141.

¹⁰³ Youssef Hassan Youssef, *Electronic Economics* (Arab Center for Legal Publishing 2012) 49-52.

¹⁰⁴ The electronic Transaction law 2008.

It should be noted that the Omani legislature took an eccentric approach to enacting the Electronic Transactions Law (69/ 2008) in that it did not specify what is meant by electronic commerce but rather broached the issue in more generalized terms. It is essential to explore this approach in greater depth.

Article (1) of this law defines an electronic transaction as “Any action or contract concluded or to be partially or wholly executed by electronic messages”. In this context, “electronic message” refers one or more packets of data formatted according to a protocol known to both sender and receiver.

It is clear from this that Omani legislators define a transaction in generalized terms, as a contract and relationship of any kind between parties¹⁰⁵. This is because contracts and relationships, by their nature, imply the existence of mutual rights and obligations. From this perspective, an electronic transaction might be defined as follows: “a set of procedures agreed upon between two or more parties to establish obligations on one party or between more than one party concerning a commercial transaction”.

A commercial transaction is, by its nature, mutual: a commodity exchanges at a particular price, which is to say, goods and services must have a value and exchange for an equivalent value. Such relationships imply mutual obligations and rights for the parties to them.¹⁰⁶ Following the definition to its end, reveals that Omani legislators understand the concept of transactions to include civil and governmental transactions.

It also defines the term electronic as: “Any kind of means of modern technology with electric or digital or magnetic or wireless or optical or electromagnetic or photic or any

¹⁰⁵ Abdullah Fargally, *Information Technology and its role in Traditional and Electronic Marketing* (Etrak Distribution 2007) 120.

¹⁰⁶ Larry E. Ribstein and Bruce H. Kobayashi, ‘State regulation of electronic commerce’ (2002) 51 *Emory Law Journal* 50.

other means of equivalent nature”.¹⁰⁷ It should be noted that, for Omani legislators, the term “electronic” should be understood broadly since they chose not to define “electronic commerce” to clarify its significance in more specific terms.¹⁰⁸ Nevertheless, such a definition can be inferred to encompass any electronic transaction between commercial entities, citizens, or governmental offices. Omani legislators, it should also be noted, have attempted to establish a comprehensive legislative basis for the concept of electronic government.¹⁰⁹ In general, the provisions of this law apply to transactions between parties that agree to conduct their transactions by electronic means, and the consent of each party can be inferred from their behaviour.¹¹⁰ Concerning the government, as a party to these transactions, its express consent is given in writing.¹¹¹ Any agreement between two parties to conduct a transaction electronically does not oblige either party to conduct other transactions by the same means.¹¹² However, when there is a specific condition in any other legislation that a particular type of transaction be conducted in written and/or printed form as is the case, for example, with matters related to personal status law such as marriage, divorce, wills and endowments, court procedures, judicial summons, proclamations, summons, search orders, arrest orders and judicial decrees, and as is also the case with any transaction or

¹⁰⁷ Article 1 of Electronic Transaction Law 2008.

¹⁰⁸ Wigand Rolf, 'Electronic commerce: Definition, theory, and context' (1997) 13(1) The information society 1.

¹⁰⁹ Muatasim Al Salmi and Others, 'E-government analysis: sultanate of Oman case' (2016) 4(03) Open Journal of Social Sciences 35.

¹¹⁰ Nasser Al Buraki, *electronic commerce law in Oman* (Dar Al Nahda AL Arabia 2017) 56-59.

¹¹¹ Article 4 of the Electronic Transaction Law 2008.

¹¹² This issue was resolved by Article 1 of the Omani Electronic Transactions Law 2008.

agreement required by Law to be authenticated by the notary public, then the electronic transaction law cannot be applied.¹¹³

This might have to do with the fact that the Omani lawmakers were influenced by UNCITRAL¹¹⁴ to which they took recourse while drawing up the electronic commerce legislation. The model law does not define the term electronic commerce but leaves that task to national legislatures.¹¹⁵

Instead of leaving it to the courts and others to infer a concept of electronic commerce, it might be preferable for Omani legislators to set down an explicit definition of electronic commerce in the national statute book given the importance of the issue. Citizens need a clear code and legislation that is easily understood.

For this reason, this study recommends that lawmakers clarify the purpose of legislation in the field of electronic commerce in order to mitigate the risk of interpretations that go against the interests of stakeholders and stymie future development. Unlike legislators in Tunisia and Egypt who do not prescribe electronic media in which electronic commercial transactions are to be conducted, their counterparts in Oman, in a distinctly idiosyncratic way, do “lay down the law” on this issue.

Indeed, Article (1) of the Omani Electronic Transactions Law defines “electronic intermediary” as: “A computer program or system or any other electronic means used for processing or responding to any process with the intention of originating or sending or receiving data message without interference of natural person.”¹¹⁶

¹¹³ This issue was resolved by Article 4 of the Omani Electronic Transactions Law 2008.

¹¹⁴ UNCITRAL Model Law on International Commercial Arbitration 1985 with amendments as adopted in 2006.

¹¹⁵ Caroline Nicholas, ‘Policy Choices in the Implementation of Electronic Procurement: The Approach of the UNCITRAL Model Law on Procurement to Electronic Communications’ (4th International Public Procurement Conference, Seoul, South Korea 2010) 26.

¹¹⁶ Article 2 of the Electronic Transaction Law 2008.

In an analogous fashion, electronic messages are defined as procedures conducted by electronic means. Then the electronic transaction definition follows: this leads to the identification of the types of electronic medium and methods to be used in electronic transactions, and the itemisation of all the means for storing and exchanging information both now and in the future.

2.11 Conclusion

In summary, there is no universally accepted definition of electronic commerce and this is recognized in international legal models for electronic commerce. As a result, each national legislature is free to adopt its own definition. Each legislature, however, agrees with the basic notion that it is to do with business activities conducted electronically.

As a result of the survey conducted in this chapter, the researcher can categorize the definitions previously discussed in terms of the perspective taken to address the concept of electronic commerce. The following table summarizes this categorization.

Perspective	Definition
1- Communications	Electronic commerce is a method of delivering information, services or products via phone lines, the internet or any other technical means.
2- Commercial Transactions	Electronic commerce is the application of digital technology to commercial transactions in order to expedite them automatically and promptly.
3- Service	Electronic commerce is a suite of tools used to meet the demands of corporations, consumers and managers that the costs of services be minimized, that service provision be accelerated and that efficiencies be maximized.
4- Internet	Electronic commerce is an instrument for the retail and purchase of goods and services and for the instantaneous exchange of information through the internet.
5- Community	Electronic commerce is a forum in which individuals and organizations within the community may gather to learn, exchange and cooperate.
6- Law	<p>Electronic commerce consists of electronic transactions settled over an electronic medium, with the intention of conducting commercial dealings conditional on the consigning and exchanging of financial and personal information to conclude the said transactions.</p> <p>Properly speaking, electronic commerce requires the following:</p> <ol style="list-style-type: none"> 1. that payments be settled over an electronic medium; 2. that transactions include the consigning and exchange of financial and personal information; 3. that transactions include tangible or intangible exchange.

Table (1) Perspectives on the Definition of Electronic Commerce¹¹⁷

¹¹⁷ Tariq Taha, *Marketing and Electronic Commerce* (Books Publishing House 2005) 317.

Definitions 1–5 make no reference to the importance of the privacy of the personal information of e-commerce users because they are quite general in nature and do not explicitly address the privacy issues associated with electronic commerce or other online activities. For instance, the communications definition focuses on the methods of delivering information, services, or products via electronic means. This is a very narrow definition of electronic commerce that takes no account of the exchange of financial and personal data and the importance of safeguarding the integrity of personal data. Similarly, the commercial transactions definition focuses on using digital technology to expedite commercial transactions, but it does not address the privacy concerns associated with these transactions. Likewise, the service definition refers to a suite of tools used to minimize service costs, accelerate service provision, and maximize efficiencies for corporations, consumers, and managers, but it makes no mention of the privacy issues related to the use of these tools. In other words, it has nothing to say about protecting the privacy of individuals' data. In the same vein, the Internet definition highlights e-commerce as a tool for retail and the instantaneous exchange of information,¹¹⁸ but it does not address the privacy concerns related to these activities. The community definition characterizes electronic commerce as a forum for individuals and organizations to gather and cooperate, but it is silent on the issue of privacy. While definitions 1–5 have little to no relevance to this study, the Law definition is more pertinent because it explicitly highlights the importance of financial and personal information exchange in electronic transactions, which is crucial for understanding the privacy implications of electronic commerce. The definition explicitly states that

¹¹⁸ Metka Stare, 'The Scope for E-Commerce in Central and Eastern European Countries' Services Trade' (2003) 23(1) The Service Industries Journal 1.

electronic commerce involves the exchange of sensitive, individual-specific information such as credit card details and, understandably, it underscores the importance of securely handling and protecting this information. The Law definition also emphasizes that, properly speaking, electronic commerce requires transactions to include tangible or intangible exchange and this further emphasizes the importance of data privacy in electronic commerce transactions. It is clear from this that adoption of the law definition will assist the researcher to explore the different ways in which personal information is collected, used, and shared by e-commerce companies, as well as to assess the risks and challenges posed by these practices, such as identity theft, fraud, and cyber-attacks. Adoption can also assist the researcher in identifying the potential privacy implications of electronic commerce and developing strategies to mitigate these risks, such as better data protection measures, improved transparency and consent mechanisms, and stronger regulations to protect consumer privacy rights. In these various ways, the law definition is highly relevant and applicable to research that concentrates on the importance of the data privacy of individuals who use the internet to buy goods and services as it provides a clear and specific framework for examining the privacy implications of electronic commerce transactions.

The law definition recognizes the importance and centrality of Information and Communications Technology (ICT) for the completion of electronic commerce transactions and takes into account the importance of personal information for completing online transactions. This prompts the researcher to formulate the following definition of electronic commerce: any action, including the transacting of goods or services that requires the sharing of business information, maintaining relationships and conducting business transactions by means of telecommunications networks. This

definition is more appropriate for this research as it focuses on personal information and its importance in completing online transactions.

However, several new terms are used to describe online transactions, for example, electronic commerce (EC) and electronic government (EG). Therefore, it is helpful to differentiate between these terms and justify why electronic commerce is defined by the type of information and communication technology (ICT).

2.12 Electronic Commerce Application

There are many types of electronic commerce and this research intends to explore data protection issues from three points of view: government, businesses, and consumers. However, this section will discuss the various types of electronic commerce prior to determining which will be the focus of this research.

The most common way to differentiate the types of electronic commerce is according to the transaction tools used and the parties to the electronic commerce transaction.¹¹⁹

2.13 Electronic Commerce Types

i. Business to Business (B2B): This is where two or more businesses are conducting business activities with each other. The contracting arrangements between manufacturers and distributors or between wholesalers and retailers are typical examples of B2B commerce. In such contexts, prices are negotiable and vary depending on the volume of orders.¹²⁰

¹¹⁹ Rania Nemat, 'Taking a look at different types of e-commerce' (2011) 1(2) World Applied Programming 100.

¹²⁰ Mira Kartiwi and others, 'Impact of external factors on determining E-commerce benefits among SMEs in Malaysia' (2018) 8(1) Journal of Global Entrepreneurship Research 1.

- ii. Business to Consumer (B2C):** This is the prototypical form of electronic commerce where businesses sell various products and services to the public. They often make use of catalogue or shopping cart software to the extent that these visual metaphors at the user interface level are becoming increasingly ubiquitous in consumer experience.¹²¹
- iii. Consumer to Consumer (C2C):** This type of electronic commerce consists of platforms that publish free classifieds, stage auctions, or provide other kinds of fora in which individuals can make trade with one another. The consumers on such platforms typically have recourse to payment platforms such as PayPal.¹²²
- iv. Government to Business (G2B):** This can be defined as “the use of information and communication technologies (ICTs) and the Internet to enhance the access to and delivery of all aspects of government services and operations for the benefit of citizens, businesses, employees and other stakeholder”.¹²³

The following table summarises these types of electronic commerce.

Consumer	Business	Government
C2C	C2B	C2G
B2C	B2B	B2G
G2C	G2B	G2G

Table (2): Electronic Commerce Types.¹²⁴

¹²¹ Efraim Turban and others, *Electronic commerce 2018: a managerial and social networks perspective* (Springer 2018) 120.

¹²² Dharmendra Gangeshwer, ‘E-commerce or Internet Marketing: A business Review from an Indian context’ (2013) 6(6) *International Journal of u-and e-Service, Science and Technology* 187.

¹²³ Satish Krishnan, Thompson Teo and Vivien Lim, ‘Examining the relationships among e-government maturity, corruption, economic prosperity and environmental degradation : A cross-country analysis’ (2013) 50(8) *Information and Management* 638.

¹²⁴ Tawfeeq Mohamad Abdulmohsen, *electronic commerce challenges* (Dar Al Fekeer Al Arabi 2004) 492.

This research aims to investigate privacy issues and their impact on the development of electronic commerce activities in Oman. It is, therefore, particularly concerned with business to consumer (B2C) electronic commerce, one of the three types where consumers are required to submit personal information to complete transactions. This research is also interested in investigating the business to business (B2B) type of electronic commerce, but not the government to business (G2B) type. This is because the aim of electronic government (EG) is to enhance access to and delivery of government services for citizens, business partners and employees.¹²⁵ Electronic government (EG) transactions, in other words, serve relatively pre-determined and fixed constituencies (such as the citizenry); by contrast, companies choose their customers.¹²⁶

2.14 Electronic Commerce Benefits and Barriers

The advantages of electronic commerce are increasing significantly, while the few remaining barriers to adoption are likely to be overcome with time. The two following sub-sections will focus on the advantages and barriers experienced in the course of electronic commerce implementation.

2.14.1 The benefits of Electronic Commerce

The existence of electronic commerce businesses within a national economy generally has a positive effect on its growth (see chapter 4: Electronic commerce in Oman). Firstly, the electronic commerce sector decreases the communication overheads incurred by such things as fax transmission, paper-based transactions, and

¹²⁵ Alcenir Vergilio Negri and Gilson Ditzel Santos, 'Assessing the quality of information on the transparency websites of the Paranaense local government, through multivariate analysis' (2019) 5(12) *Brazilian Journal of Development* 28937.

¹²⁶ Benmoussa Mohammed Soufiane and Marhaiza Ibrahim, 'Factors Affecting the Adoption of Electronic Government in Algeria: A Proposed Framework' (2018) 10(1) *Journal of Advanced Research in Business and Management Studies* 52.

administrative tasks.¹²⁷ Secondly, it reduces the financial and spatial overheads of storage¹²⁸ which, in turn, reduces energy expenditure.¹²⁹ Thirdly, it reduces the cost of renting office space and purchasing capital equipment.¹³⁰

Electronic commerce decreases the cost of creating, processing, distributing, storing, and retrieving paper-based information giving the consumer the ability to choose between more options and at lower prices.¹³¹ Moreover, electronic commerce allows customers to interact with one other in electronic communities and exchange ideas as well as compare experiences. There are no geographical limits between the vendor and the buyer, so any person anywhere can buy any item.¹³² This gives electronic commerce consumers the capacity to compare prices across vastly expanded array of markets.¹³³ Moreover, reliable and prompt delivery times attract consumers to electronic commerce,¹³⁴ as do opportunities to participate in online auctions.¹³⁵ This has a

¹²⁷ Yifeng Jiang, Jing Lou and Qingyuan Zhou, 'Optimization of energy consumption of green data center in e-commerce' (2019) 23 *Sustainable Computing: Informatics and Systems* 103.

¹²⁸ Felix Weidinger, Nils Boysen and Michael Schneider, 'Picker routing in the mixed-shelves warehouses of e-commerce retailers' (2019) 274(2) *European Journal of Operational Research* 501.

¹²⁹ Henrik Palsson, Fredrik Pettersson and Lena Winslott Hiselius, 'Energy consumption in e-commerce versus conventional trade channels-Insights into packaging, the last mile, unsold products and product returns' (2017) 164 *Journal of cleaner production* 765.

¹³⁰ Luisa Piris, Guy Fitzgerald and Alan Serrano, 'Strategic motivators and expected benefits from e-commerce in traditional organisations' (2004) 24(6) *International Journal of Information Management* 489.

¹³¹ Shu-hsien Liao, Yin-ju Chen and Yi-tsun Lin, 'Mining customer knowledge to implement online shopping and home delivery for hypermarkets' (2011) 38(4) *Expert Systems with Applications* 3982.

¹³² Luisa Piris, Guy Fitzgerald and Alan Serrano, 'Strategic motivators and expected benefits from e-commerce in traditional organisations' (2004) 24(6) *International Journal of Information Management* 489.

¹³³ *Ibid* 490.

¹³⁴ Shu-hsien Liao, Yin-ju Chen and Yi-tsun Lin, 'Mining customer knowledge to implement online shopping and home delivery for hypermarkets' (2011) 38(4) *Expert Systems with Applications* 3982.

generally positive effect on social levels of technical literacy: as electronic commerce becomes increasingly ubiquitous, consumers increasingly seek to increase their knowledge and computers and computer networks.¹³⁶

If the take-up of electronic commerce spreads in step with improvements in the usability, reliability and quality of ICT systems, this has a positive impact on the environment¹³⁷ as it reduces the numbers of people who visit bricks-and-mortar retail outlets and, therefore, reduces pollution. Electronic commerce also allows some merchandise to be sold at lower prices and enables the less affluent to buy more and increase their standard of living.¹³⁸

Electronic commerce transactions can be conducted anywhere and at any time,¹³⁹ and can, consequently, affect the international development of electronic transactions in the era of globalization.¹⁴⁰

Electronic commerce has both positive and negative impacts. As the Covid-19 pandemic swept through country after country, for example, governments were forced to use their fiscal powers on an unprecedented scale in order to save lives and keep economies ticking over. In that context, it was quite obvious to both retailers and

¹³⁵ Vinicius Almendra, 'Finding the needle: A risk-based ranking of product listings at online auction sites for non-delivery fraud prediction' (2013) 40(12) *Expert Systems with Applications* 4805.

¹³⁶ Evija Rusite, 'Evaluation of the Significance of the Rankings of Higher Education Institutions' (2020) 28(2) *Humanities and Social Sciences* 91.

¹³⁷ Christian Fuchs, 'The implications of new information and communication technologies for sustainability' (2008) 10(3) *Environment, Development and Sustainability* 291.

¹³⁸ Emrah Oney, Gizem Oksuzoglu Guven and Wajid Hussain Rizvi, 'The determinants of electronic payment systems usage from consumers' perspective' (2017) 30(1) *Economic research* 394.

¹³⁹ Luisa Piris, Guy Fitzgerald and Alan Serrano, 'Strategic motivators and expected benefits from e-commerce in traditional organisations' (2004) 24(6) *International Journal of Information Management* 489.

¹⁴⁰ Yu Cheng Lee and others, 'An empirical research on customer satisfaction study: a consideration of different levels of performance' (2016) 5(1) *springer plus* 1.

consumers that electronic commerce was valuable in offsetting emergency government outlays. In any final analysis, electronic commerce will be judged a net positive to the extent that it demonstrably contributes to national economic growth.¹⁴¹ On that basis, consumers and retailers alike will be happy to embrace electronic means as a medium for the exchange of goods and services.

Finally, while there are enormous advantages to leveraging electronic commerce in business, there are still hurdles to overcome that stand in the way of implementation. These will be discussed in the next subsection.

2.14.2 Barriers to electronic commerce

The implementation of electronic commerce faces some barriers (for more information see **Chapter 4: Electronic commerce in Oman**). In order to adopt electronic commerce companies must take out licences for the required software.¹⁴² In addition, updates and upgrades of the software may incur further costs if they are not covered by the terms of the licences.¹⁴³ In sum, the implementation of a high-quality electronic commerce website is potentially expensive in terms of software licencing.¹⁴⁴

Potential start-ups and existing businesses who wish to leverage electronic commerce have to coldly assess a factor largely beyond their control: the size and quality of the national infrastructure required to support electronic commerce. An infrastructure of

¹⁴¹ Lurong Chn, 'Improving Digital Connectivity For E-commerce: A Policy Framework and Empirical Note for ASEAN' (2020)

¹⁴² Luigi Palopoli, Domenico Rosaci and Giuseppe Barbaroa, 'A distributed and multi-tiered software architecture for assessing e-Commerce recommendations' (2016) 28(18) *Concurrency and Computation: Practice and Experience* 4507.

¹⁴³ T. Chitura and others, 'Barriers to electronic commerce adoption in small and medium enterprises: A critical literature review' (2008) 13(2) *The Journal of Internet Banking and Commerce* 1.

¹⁴⁴ Mira Kartiwi and Robert Macgregor, 'Electronic commerce adoption barriers in small to medium-sized enterprises (SMEs) in developed and developing countries: A cross-country comparison' (2007) 5(3) *Journal of Electronic Commerce in Organizations* 35.

high quality will obviously encourage domestic market actors to adopt and leverage electronic commerce in their day-to-day operations.¹⁴⁵ On the issue of size, the rate of internet penetration will also determine the viability of electronic commerce adoption: if local internet services are expensive, the potential customer base is likely to be too narrow to make electronic commerce worthwhile.¹⁴⁶ If, however, a national economy has a very competitive information communication technology (ICT) sector, this will make for high service levels, a broad potential customer base, and encourage the adoption of electronic commerce.¹⁴⁷

Another barrier to the successful adoption of electronic commerce is the need to fulfil e-readiness requirements: “the prerequisite of a successful e-Business is e-Readiness”.¹⁴⁸ The term e-ready represents the degree to which a nation-state or its economy is ready, willing and prepared to reap the benefits of information and communication technologies (ICTs).¹⁴⁹ There are two factors of e-readiness of immediate concern to this research: (1) the willingness of Omani citizens to use ICT in their everyday lives, in particular in retail; and (2) national preparedness to use ICT, in

¹⁴⁵ Ramakrishnan Ramanathan, ‘An empirical analysis on the influence of risk on relationships between handling of product returns and customer loyalty in E-commerce’ (2011) 130(2) *International Journal of Production Economics* 255.

¹⁴⁶ Alcenir Vergilio Negri and Gilson Ditzel Santos, ‘Assessing the quality of information on the transparency websites of the Paranaense local government, through multivariate analysis’ (2019) 5(12) *Brazilian Journal of Development* 28937.

¹⁴⁷ Martin Hilbert, *Latin America on its path into the digital age: where are we* (United Nations Publication 2001) 26-27.

¹⁴⁸ Nkululeko Mthembo and Jude O. Osakwe, ‘E-readiness of Namibian SME retailers to Adopt B2C e-Commerce’ (IST-Africa Conference Institute of Electrical and Electronics Engineers, Uganda, 2020)
<https://ieeexplore.ieee.org/abstract/document/9144054?casa_token=W789s44EZ0kAAAAA:Wd8U5os5IQTleCFDuEnbW9MBNsi2e28ALLCeC4oL7m1RrkybOYwga2hcVqPRF9QfAR9V5cFy5xA> accessed on 15 September 2021.

¹⁴⁹ Danish Dada, ‘E-Readiness For Developing Countries: Moving The Focus From The Environment to The Users’ (2006) 27 *The Electronic Journal of Information Systems in Developing Countries* 1.

particular electronic commerce, in terms of the provision or non-provision of supportive and enabling legal frameworks.

Firstly, how willing are Omani citizens to shop online as a matter of routine? As has already been noted, this will be determined by the extent to which they trust online retail systems which do not allow consumers to touch or try products and which have an international record of exposing consumers to fraud and data privacy violation.¹⁵⁰ This is to say that using ICT to shop is a daunting prospect for those unfamiliar with it who may well prefer to stick with traditional markets.¹⁵¹ Such consumer wariness is well-founded in the light of published fraud rates. For example, according to 2021 figures the percentage of the population who have fallen victim to fraud is: 6.7% in Catalonia, 6.9% in England and Wales, 7.9% in Finland, 8.4% in France, and 8.9% in Sweden.¹⁵² In addition, the Insurance Information Institute (2021) reports that identity theft continues to pose challenges for consumers as criminals develop new mechanisms to commit fraud.¹⁵³ Thus, it is clear that fraud is one of the main issues undermining e-readiness and the flourishing of electronic commerce internationally.

A second factor which undermines consumers' willingness to engage in electronic commerce in Oman and elsewhere is discursive accessibility. In concrete terms, this refers to the use of various technical languages on electronic commerce websites that

¹⁵⁰ Rakesh Belwal, Rahima Al Shibli and Shweta Belwal, 'Consumer protection and electronic commerce in the Sultanate of Oman' (2020) 19(1) *Journal of Information, Communication and Ethics in Society* 38.

¹⁵¹ Syed Ahmed Abdel Khaleq, *E-Commerce and Globalization* (Arab Organization for Administrative Development Publications 2008) 90.

¹⁵² United Nation Conference on Trade and Development: (United Nations Publications) United States of America, 2021.

¹⁵³ Insurance Information Institute, *Insurance Fact Book* (Insurance Information Institute 2021) 135.

makes consumers fearful of being deceived or misunderstood when shopping online.¹⁵⁴

The EU stresses the importance of using transparent and accessible language on its various public-facing websites.¹⁵⁵

A third factor of e-readiness at the consumer level in Oman and elsewhere is anxiety about the privacy of personal data (see further section 7.2 Findings from the Omani context).¹⁵⁶ This is crucial because the expediting of transactions online absolutely depends on consumers' willingness to surrender their personal details to ICT systems.¹⁵⁷

The second main factor of Omani e-readiness of interest to this research concerns the state rather than the citizenry: to what extent does Oman have adequate legal frameworks to regulate electronic commerce? Unfortunately, Oman does not have adequate laws to regulate the electronic commerce sector and protect private personal data, and neither has it instituted specific courts or other authorities to adjudicate electronic commerce issues and disputes.¹⁵⁸ Furthermore, the electronic commerce

¹⁵⁴ Mohammad Salah, Shaidah Jusoh and Muhanna Muhanna, 'The Development of Usability Heuristics for Arabic M-Commerce Applications' (Jordan International Joint Conference on Electrical Engineering and Information Technology, The Institute of Electrical and Electronics Engineers on 2019) <<https://ur.booksc.eu/book/76727556/6661c7>> accessed on 16 September 2021.

¹⁵⁵ Pierre Heriard, 'Language Policy' Fact Sheets on the European Union – 2021' <https://www.europarl.europa.eu/ftu/pdf/en/FTU_3.6.6.pdf> accessed 28 August 2021.

¹⁵⁶ Wenjing Xie and Kavita Karan, 'Consumers' privacy concern and privacy protection on social network sites in the era of big data: Empirical evidence from college students' (2019) 19(3) *Journal of Interactive Advertising* 187.

¹⁵⁷ Changu Kima and others, 'An empirical study of customers' perceptions of security and trust in e-payment systems' (2010) 9(1) *Electronic commerce research and applications* 84.

¹⁵⁸ Rakesh Belwal, Rahima Al Shibli and Shweta Belwal, 'Consumer protection and electronic commerce in the Sultanate of Oman' (2020) 19(1) *Journal of Information, Communication and Ethics in Society* 38.

sector is generally regulated at a national level and there is no agreed set of regulations to mediate conflicts that might raise between different jurisdictions.¹⁵⁹

2.15 Conclusion

Electronic commerce, the process of selling and buying goods and services using electronic systems such as the Internet and other networks, is predicted to be a major engine of economic development in the 21st century. It has been noted that one of the major barriers to implementation and adoption of electronic commerce consumers' fear of surrendering their personal data to untrusted parties due to their privacy concerns. Therefore, the next chapter discusses the concept of privacy, its historical development, definition, and its relationship with personal information and the factors that influence the individual's decision to deal online.

¹⁵⁹ Ronald Brand, 'Intellectual Property, Electronic Commerce and the Preliminary Draft Hague Jurisdiction and Judgments Convention' (2001) 62 University of Pittsburgh Law Review 581.

Chapter 3 Privacy

3.1 Introduction

Privacy, as discussed in subsection 2.14 (The barriers to electronic commerce), chapter 4 (Electronic commerce in Oman), and highlighted in sections 7.2 (findings from the Omani context) is one of the main problems facing businesses that wish to trade online.¹⁶⁰ This is because gathering and collecting information plays an important role in the global economy, especially in electronic commerce,¹⁶¹ and the exchange of consumer information is an essential part of conducting any transaction.

This chapter discusses several issues concerning privacy: firstly, it provides an analysis of the concept of privacy in western jurisprudence (3.1.1); secondly, it examines the notion of privacy in Islamic jurisprudence (3.2) to gain an in-depth understanding of its importance in Islamic culture, including in relation to spying and suspicion (3.2.1) and privacy of information (3.2.2); and thirdly, it examines the key relationship between information privacy and personal data (3.3). Furthermore, legislative developments will be described in section 3.4, particularly the 2016 European Data Protection Regulation (GDPR) of 2016 and the UN General Assembly Resolution 45/95 (3.5.1, 3.5.2, and 3.5.3) of 1990. Finally, the various threats to the right of privacy will be discussed in section 3.6 (source of threat) both commercial (3.6.2) and individual (3.6.3).

3.1.1 Notions of Privacy in western jurisprudence

As stated earlier, it is useful to trace the historical development of the concept of privacy. In general, the concept of privacy or the right to privacy varies from one

¹⁶⁰ Rakesh Belwal, Rahima Al Shibli and Shweta Belwal, 'Consumer protection and electronic commerce in the Sultanate of Oman' (2020) 19(1) *Journal of Information, Communication and Ethics in Society* 38.

¹⁶¹ Katayoun Baghai, 'Privacy as a human right: a sociological theory' (2012) 46(5) *Sociology* 951.

society to another and from one culture to another.¹⁶² In fact, generally the right to privacy, the extent of its scope, what it protects within its scope, and what is not considered a matter of privacy are often subject to change.¹⁶³ This may explain the absence of a comprehensive definition of privacy, or at least of a consensus among scholars of comparative law regarding the fundamental elements of the right to privacy¹⁶⁴. Warren and Brandeis define the right to privacy as simply "the right to be left alone,"¹⁶⁵ while Alan Westin defines it "as a claim of individuals, groups or institutions to determine for themselves when, how, and to what extent information about them is communicated to others".¹⁶⁶ In the stricter terms of the Electronic Privacy Information Centre (EPIC), Westin defines a right to "information privacy".¹⁶⁷ In fact, EPIC¹⁶⁸ identify four types of privacy: "information privacy", "communication privacy", "bodily privacy", and "territorial privacy":

- Information privacy, which involves the establishment of rules governing the collection and handling of personal data such as credit card information and medical and government records, is also known as data protection.¹⁶⁹

¹⁴⁷ Katayoun Baghai, 'Privacy as a human right: a sociological theory' (2012) 46(5) *Sociology* 951.

¹⁶³ *Ibid*

¹⁶⁴ Michael Friedewald, Rachel Finn and David Wright, *Seven types of privacy. In European data protection: coming of age* (Springer 2013) 1.

¹⁶⁵ Samuel Warren and Louis Brandeis, 'The right to privacy' (1890) 4(5) *Harvard law review* 193.

¹⁶⁶ Alan Westin, 'Privacy and Freedom' (1986) 25(1) *Washington and Lee Law Review* 7.

¹⁶⁷ *Ibid* 7.

¹⁶⁸ Alastair Beresford and Frank Stajano, 'Location Privacy in Pervasive Computing' (2003) 2(1) *IEEE Pervasive Computing* 46.

¹⁶⁹ Charles Fried, 'Privacy' (1968) 77 *Yale Law Journal* 475. See also; Alastair Beresford and Frank Stajano, 'Location Privacy in Pervasive Computing' (2003) 2(1) *IEEE Pervasive Computing* 486.

- Privacy of communications covers the security and privacy of mail, telephone conversations, e-mail and other forms of communication.¹⁷⁰
- Bodily privacy concerns the protection of people's physical selves against invasive procedures such as genetic tests, drug testing and cavity searches.¹⁷¹
- Territorial privacy concerns the setting of limits on intrusion into the domestic and other environments such as the workplace or public space. This includes searches, video surveillance and identity document checks.¹⁷²

Information privacy constitutes a particularly difficult legal area due to rapid advances in technology, especially after the commercial success of the World Wide Web.¹⁷³ In spite of the importance of privacy as a human right, until the end of the nineteenth century there was no legal protection of it as a fundamental human right.¹⁷⁴ Despite this, some regulations and laws at national and institutional levels did recognise it implicitly. However, privacy as a legal principle may be shaped by differences in individual priorities. For example, in the realm of electronic commerce, some have no objection to providing their personal data to anonymous and possibly untrustworthy parties, while others are hesitant and fearful and seek to verify the safety and reliability of online sites.¹⁷⁵

¹⁷⁰ Dimitrios Xanthidis and others, 'Information Privacy and Emerging Technologies in the UAE: Current State and Research Directions' (2020) 11(2) *International Journal of Techno ethics* 1.

¹⁷¹ Samuel Warren and Louis Brandeis, 'The right to privacy' (1890) 4 *Harvard Law Review* 193.

¹⁷² Alan Westin, 'Privacy and Freedom' (1986) 25(1) *Washington and Lee Law Review* 488.

¹⁷³ Kim Taipale, 'Technology, security and privacy: The fear of Frankenstein, the mythology of privacy and the lessons of King Ludd' (2004) 7 *Yale Journal of Law and Technology* 123.

¹⁷⁴ Ruth Gavison, 'Privacy and the Limits of Law' (1980) 89(3) *The Yale Law Journal* 421.

¹⁷⁵ Roberto Hoyle and others, 'Privacy norms and preferences for photos Posted Online' (2020) 27(4) *ACM Transactions on Computer-Human Interaction* 1.

Privacy of communications is mainly concerned with the protection of postal, e-mail, telephone, and other forms of communication.¹⁷⁶ Issues concerning communications privacy escalated after episodes of widespread government interference made possible by advances in communications technology,¹⁷⁷ which underscored the importance of codifying and enacting laws to regulate the collection and processing of personal information, data protection laws.¹⁷⁸

It should be noted here that bodily and territorial privacy fall outside the scope of this research since its empirical focus is personal data, the protection of which is a pre-condition for the conducting of online electronic transactions. Accordingly, the current research will concentrate on information privacy because the new technologies of commercial websites threaten the integrity of private personal data.

The first legal protection of privacy dates back to 1361 when the Justices of the Peace Act in England codified in law the principle of behavioural or media privacy.¹⁷⁹ Much later in 1765, the civil case of *Entick v Carrington* set an important precedent that limited the scope of executive political power and protected the privacy of individuals vis-à-vis the state.¹⁸⁰ On 11 November 1762, Nathan Carrington, the King's Chief Messenger, and three of his colleagues broke into the home of John Entick, a hack writer who had published attacks on the British government. They ransacked the house over a period of hours, confiscated a large volume of Entick's private books and papers

¹⁷⁶ Sabine Trepte, 'The social media privacy model: Privacy and communication in the light of social media affordances' (2020) *Communication Theory* 1.

¹⁷⁷ Rolf Weber, 'Internet of Things—New security and privacy challenges' (2010) 26(1) *Computer law and security review* 23.

¹⁷⁸ Roberto Hoyle and others, 'Privacy norms and preferences for photos Posted Online' (2020) 27(4) *ACM Transactions on Computer-Human Interaction* 1.

¹⁷⁹ Ruth Gavison, 'Privacy and the Limits of Law' (1980) 89(3) *The Yale Law Journal* 421.

¹⁸⁰ *Entick v Carrington* [1765] EWHC KB J 98

and in the process caused £2,000 of damage. Entick successfully sued the messengers for the tort of trespass. The presiding judge, Lord Camden, commented in his judgment that:

“We can safely say there is no law in this country to justify the defendants in what they have done; if there was, it would destroy all the comforts of society, for papers are often the dearest property any man can have”.¹⁸¹

The defendants denied responsibility for the tort on the grounds that their actions were authorised by a warrant issued by Lord Halifax, the Secretary of State for the Northern Department. However, the court decided that the defendants’ actions were illegal because they were carried out outside the framework of the search warrant, which was applied arbitrarily and unlawfully and involved a violation of personal rights and freedoms.¹⁸²

In 1789, the English parliamentarian William Pitt noted the following on the limits to executive powers to trespass:

“The poorest man may in his cottage bid defiance to all the forces of the crown. It may be frail; its roof may shake; the wind may blow though it; the storm may enter; the rain may enter - but the king of England cannot enter; all his forces dare not cross the threshold of the ruined tenement”.¹⁸³

¹⁸¹ *Entick v Carrington* [1765] EWHC KB J 98

¹⁸² Mimmy Gondwe, ‘The Protection of Privacy in the Workplace : A Comparative Study’ (Degree of Doctor of law thesis, Faculty of Law Department of Mercantile Law Stellenbosch University 2011)

¹⁸³ Thomas M. Cooley, *A Treatise on the Constitutional Limitations Which Best Upon The Legislative Power OF The States Of The American Union* (university press welch bigelow and co. 1868) 299.

Supreme Court Judge Thomas Cooley's definition of liberty in 1888 asserts that "the right to one's person may be said to be a right of complete immunity: to be let alone"¹⁸⁴. In 1890, Samuel Warren and Louis Brandeis published an article, "The Right to Privacy", in which they described privacy as "the right to be let alone" in relation to a case involving reporters who had photographed people without their consent.¹⁸⁵

3.2 Notions of Privacy in Islamic Culture

The term "privacy" or the "concept of a right to privacy" is not explicitly articulated in the Quran or the Sunnah.¹⁸⁶ Early Muslim scholars neither explicitly recognised this term, nor explicitly used terms that are similar to terms used by Western scholars and lawyers today, such as the right to be left alone or the right to control over information. However, the prevailing term used by Muslim scholars when discussing privacy is *sitr*, which encapsulates the concept of "screen, veil, cover or protection". Its verbal noun is *satr*, which implies concealing, hiding, or shielding.¹⁸⁷ *Khalwa* is another term widely used in discussions of privacy, which conveys isolation, solitude or seclusion.¹⁸⁸ In addition, the word *awrah*¹⁸⁹ is commonly used in discussions of privacy. In the course

¹⁸⁴ Henry v. Cherry Webb, 30 R.I. 13, 37, 73 A. 97, 107 (1909)

¹⁸⁵ Samuel Warren and Louis Brandeis, 'The right to privacy' (1890) 4 Harvard Law Review 193.

¹⁸⁶ The Qur'an is the sacred book revealed to the prophet Mohamad over a period of 23 years and is the first primary source of Islamic law. The sunnah is the second primary source of Islamic law and consists of the verbally transmitted record of the teachings, deeds and sayings, silent permissions (or disapprovals) of the prophet Mohammed.

¹⁸⁷ Eli Alshech, 'Notions of Privacy in Classical Sunni Islamic Thought' (DPhil thesis, the Faculty of Princeton University 2004) 195.

¹⁸⁸ Basel Munir Hamdeh and Radwan Jamal Elatrash, 'Intellectual Cultivation: Quranic Perspective In Light of Surat Al-Kah' (2019) 3(1) Al-Risalah: Journal of Islamic Revealed Knowledge and Human Sciences 139.

¹⁸⁹ The word *awrah* has two legal meanings: (1) it often refers to the intimate parts of the body that believers must conceal from others; and (2) it denotes individuals' weakness and failings of people, in other words, things that they wish to prevent becoming public knowledge.

of explaining why one must ask permission to enter another's house, one scholar identifies a number of *awrat* to be protected by this Quranic requirement such as the *awrah* of the body, food, dress, furniture, as well as the *awrah* of emotional and psychological conditions which the inhabitants often wish to keep hidden from strangers.¹⁹⁰

It is important to note that privacy was conceptualized by early and late Muslim scholars as a means rather than an end. However, the right to privacy today has been explicitly recognised in many Muslim states' constitutions and laws. More importantly, contemporary Muslim scholars consider privacy to be one of the *maqasid* of the rules of sharia'a (intentions of sharia),¹⁹¹ which means that the right to privacy is a desirable end from the perspective of sharia'a law. Notions of privacy are evident in several conceptual pairs and clusters used in the Quran and the Sunnah, as well as in various practices witnessed by Muhammad's companions.¹⁹² For example, the sanctity of the home is firmly established in Quranic and prophetic doctrine and this imposes strict limits on governments' power to surveil and enter citizens' homes. To give another example in the field of criminal law, punishments for theft distinguish between property held in a private place and property displayed in a public place.¹⁹³

With respect to the nature of Islamic principles of privacy, it can be argued that aspects

¹⁹⁰ Sayyid Qutb, *Fi Zilal al Qur'an* (Dar al Shuruq 1995) 2915 - 2916.

¹⁹¹ Maqasid al-sharia'a defines as the objectives and goals for the legislation of the laws of sharia'a; there is a general agreement among Muslim scholars that every Islamic rule has wisdom behind it. According to the prevailing view, Islamic law came to preserve the five necessities, which refer to the preservation of one's religion, life, offspring, faculty of reason, and property.

¹⁹² Action, saying, silence, and acknowledgment by reference, wording, or forbidding, all according to Islamic law shall be considered as an obligation if the prophet Mohamad did them.

¹⁹³ Ahmed El Shamsy, '11 Shame, sin, and virtue: Islamic notions of privacy' (2015) 65 *Public and Private in Ancient Mediterranean Law and Religion* 237.

of sharia's doctrine on privacy belong to the field of decency rather than law. It is true that Islamic sharia is a sacred law, which means that sharia codifies not only legal norms that determine whether actions are prohibited or permitted, as do Western secular legal traditions, but it also lays down moral norms.

In order to determine whether a particular Islamic norm is ethical or legal, Muslim jurists have developed a taxonomy of human action. According to this, all human acts can be categorised into one of five normative classifications: (1) "obligatory" (*wajib*), (2) "recommended" (*mustahabb*), (3) "indifferent" (*mubah*), (4) "reprehensible" (*makruh*), and (5) "prohibited" (*muḥaram*).¹⁹⁴ The term (*wajib*) "obligatory" is often used to refer to religious obligations such as praying five times a day, fasting during the month of Ramadan and giving alms.¹⁹⁵ If a believer chooses not to commit an act which is considered *wajib*, he or she is subject to punishment. "Prohibited" (*muḥaram*) often describes illegal actions, for instance murder, defamation, adultery and so forth. Committing one of these also incurs punishment.

It should also be noted that there are three forms of punishment under sharia's law. The first is *hudud* ("boundaries"), punishments which are fixed and specified in the Quran and, in some instances, in the Sunnah, such as capital punishment for a murderer. The second is *qisas* ("retribution") which allows the injured party to retaliate in kind in cases such as murder or injury. The last is *tazir* ("discretionary punishment") which refers to prohibited acts where neither the Quran nor the Sunnah specify a punishment; in these

¹⁹⁴ Joseph Schacht, *An introduction to Islamic law* (Clarendon Press 1993) 122.

¹⁹⁵ It is interesting to note that Muslim scholars distinguish between individual obligations (*fard ayn*) such as fasting and praying and collective obligations (*fard kifaya*), the fulfillment of which by a sufficient number of individuals exempts the rest of the community, such as holy war.

cases, it is left to the state, or judge (*qadi*), to decide on an appropriate punishment.¹⁹⁶

The other two categories of human action, “recommended” (*mustahabb*) and “reprehensible” (*makruh*), describe neither obligations nor prohibitions; rather, they denote an individual’s conscience. In this respect, *mustahabb* and *makruh* are “purely ethical considerations and evaluations”.¹⁹⁷ If an freely commits a reprehensible act, scholars consider it immoral but this implies no legal consequences. The last category, *mubah*, refers to actions that are neither prohibited nor recommended, and for which there is no prescribed punishment if committed or reward if avoided. An example of a *mubah* action is eating meat prepared by “people of the book” (Jews and Christians, towards whom the Qur’an prescribes tolerance). It is important to point out that all laws laid down in the Quran reinforce and promote moral and ethical objectives¹⁹⁸, for example, adultery is both punishable and an immoral act in sharia’a law.¹⁹⁹

Quranic injunctions on privacy take the form of negative imperatives and have the status of prohibitions in Islamic jurisprudence, for example, “...don’t enter other houses...” and “...don’t spy...”. The fact that the Quran does not prescribe a legal penalty in these cases does not mean they are not legally binding. Privacy breaches are covered under the *tazir* category, which requires that the state or judge provide legal remedies for any failures to observe the right to privacy. For example, engaging in

¹⁹⁶ Etim Okon, ‘Hudud Punishments in Islamic Criminal Law’ (2014) 10(14) European Scientific Journal 227.

¹⁹⁷ Baber Johansen, *Contingency in a sacred law: legal and ethical norms in the Muslim fiqh* (Brill 1999) 70.

¹⁹⁸ Khaled Abou El Fadl, ‘The place of ethical obligations in Islamic law’ (2004) 4 UCLA Journal of Islamic and Near Eastern Law 1.

¹⁹⁹ It has been argued by Muslim scholars that “whether every legal rule must also be treated as an ethical obligation and on whether every ethical norm must necessarily give rise to a binding legal obligation”.

espionage as a *tazir* offence that is punishable under sharia'a law.²⁰⁰ It is important to mention that many Muslim countries such as Oman²⁰¹ and Saudi Arabia²⁰² have incorporated provisions into their constitutions that confirm the inviolability of dwellings and illegality of spying on correspondence in a way that demonstrates consistency with Quranic teaching (for more details see section 4.3 Privacy and Electronic Commerce in Oman).

When discussing privacy, Muslim scholars often prescribe legal protections for violations of privacy. These tend to be explicitly restrictive, especially when an individual's privacy is endangered by a government. They forbid religious police (*muhtasibs*) from spying on individuals in their own dwellings and from initiating an inquiry against a suspected offender as long as there is no sign that his offence will be visible in the public sphere.

There is no better way to grasp this Islamic notion of privacy than to trace its historical development, from its origins in the seventh century to its later forms, which took place from the ninth century onwards. Prior to the emergence of Islam, Arabs were not particularly observant of the rules and principles of privacy. People in that era used to enter the houses of their friends or relatives and simply announce "I have entered", without obtaining prior permission.²⁰³ The residents of the house may not have been ready to host them at this time, for example they may have been in a state of undress; as

²⁰⁰ Mohammad ibn Othaimen, *Sharh Kitab al-siyasa al-Shari'ya li Ibn Taymiyah* (Dar Ibn Hazim 2004) 454.

²⁰¹ "Homes telecommunication shall be inviolable. They may not be entered without permission from their inhabitants except in accordance with the provisions of the law, and in circumstances laid down therein" Article 36 (On Omani Constitution)

²⁰² "Houses are inviolable. They shall not be entered without the permission of their owners, nor shall they be searched except in cases specified by the law" Article 33 (On Omani Constitution)

²⁰³ Abu Abdullah Al-Qurtubi, *al Jami li Ahkam al-Quran* (Alresalah for Printing, Publishing and Distribution 2006) 164-165.

such, they were likely to feel exposed, embarrassed, or humiliated. This habit of guests became a source of trouble and inconvenience for people at that time.²⁰⁴

In the early Islamic period, this practice continued until a Quranic verse was revealed in response to a complaint brought to the Prophet Mohamad by a woman in Medina, who lived with her father and other relatives. She complained that some of her relatives, men in particular, sometimes entered her house and came upon her when she needed to be alone.²⁰⁵ The Quranic verse states:

“Oh you who believe! Do not enter a house other than your own, until you have asked permission (*tasta'nisu*) and greeted (*tusallimu*) those in them: it is best for you, in order that you may remember. If you find no one in the house, enter not until permission is given to you, if you are asked to go back, go back, that makes for greater purity for themselves (*azka lakum*), and God (*Allah*) knows well all that you do. It is no fault on your part to enter buildings not used for living (*ghayr maskum*), which serve some (other) use for you, and God (*Allah*) has knowledge of what you reveal and what you conceal”.²⁰⁶ The first manifestation of “privacy” in Islamic law thus came in the form of the protection of private abodes from unbidden entry. However, Muslim scholars have differed to a significant extent in their interpretation of the exact meaning of this Quranic verse since its revelation. It is clear that the Qur’anic verse distinguishes between buildings used as dwellings, entrance into which requires permission, and public buildings, where such permission is not required. However, early Muslim scholars who commented on this verse asserted that the protection of privacy was contingent upon violations of property rights. In other words, early scholars interpreted

²⁰⁴ Mohammad Kamali, *The Dignity of Man: An Islamic Perspective* (The Islamic Texts Society 2002) 163.

²⁰⁵ Ibid.

²⁰⁶ The Holy Quran, 24:27.

and understood the Quranic precept as only preventing unauthorised physical trespass.²⁰⁷ Therefore, it led to the development of a concept of privacy with a narrow scope that does not protect the private contents in a house.

One scholar identifies the places where permission is not required for entrance, such as deserted dwellings on the roadside or ruins. He clarifies that such places are not owned or utilised by any specific person; rather are used by travellers as shelters in the summer or winter.²⁰⁸ Indeed, he claims that the Quranic verse was referring to uninhabited dwellings on the roadside where there is no need to obtain permission to enter. Therefore, any place with a regular occupant must be inaccessible to the public, even if it is non-residential, and vice versa; the public would only have free access to regularly unoccupied places.²⁰⁹

Early Muslim scholars granted legal protection to privacy claims; however, this protection was offered in relation to a violation of property rights, e.g. physical trespass. The issue of the contents of a private dwelling under privacy law appeared to be legally irrelevant; as such, the scope of privacy at that time was very narrow. From the ninth century onwards, the Islamic notion of privacy underwent a clear evolution in both exegesis and legal discussions, which led to the inclusion of a wide range of privacy concerns. More importantly, privacy evolved to become an independent legal category, which protected even though there was no violation of property rights. In addition, scholars broadly interpreted the word *isti'nas* and conceived it as “warning the inhabitants of a visitor’s presence”, so that they could exercise caution in their private

²⁰⁷ Eli Alshech, ‘Notions of Privacy in Classical Sunni Islamic Thought’ (Dphil thesis, The Faculty of Princeton University 2004) 297.

²⁰⁸ Ibid 295.

²⁰⁹ Abu Mohammad Ibn Atiyah, *Al- Muharrar al-Wajiz fi Tafsir al-Kitab al-'Aziz* (Dar Al Kutub Ilmiyah 2001) 177.

sphere.²¹⁰ Some Muslim scholars went further by requiring that visitors take measures while approaching a dwelling, for example, coughing or walking slowly (*yata'anna*).²¹¹ As such, these measures were intended to prevent visitors from learning about the private affairs of a dwelling they were about to enter. To that end, visitors must proceed slowly and ensure that they do not discover anything that the inhabitants wish to remain private.

It is important to note that some scholars maintain that a passer-by who looks into another's dwelling through an open door or window while walking must not be deemed guilty of an offence against privacy. Al-Jawayni states that, in such a case, the inhabitant has been negligent and therefore cannot seek legal recourse.²¹² This clearly suggests that the rationale behind these views was not to protect the inhabitants from intrusiveness, but rather from the fact that a visitor might see certain things deemed by the inhabitants to be sensitive.

Later scholars expanded the scope of privacy to include immaterial entities, for instance, individuals' peace of mind. It can be demonstrated that, by tarrying at the door, a visitor might disturb the inhabitant's peace of mind. That is to say, the inhabitant's peace of mind may suffer because an unwelcome visitor lingers to the extent that he cannot shield his thoughts from the visitor.²¹³ Therefore, tarrying by the door may restrict the inhabitants' private activities, especially those that occur in the vicinity of their house.

For instance, an inhabitant may hesitate to use a toilet located outside of the house if a

²¹⁰ Eli Alshech, 'Notions of Privacy in Classical Sunni Islamic Thought' (Dphil thesis, The Faculty of Princeton University 2004) 327.

²¹¹ Abu Mohammad Ibn Atiyah, *Al-Muharrar al-Wajiz fi Tafsir al-Kitab al-'Aziz* (Dar Al Kutub Ilmiyah 2001) 175.

²¹² Ibid 312.

²¹³ Abu al-Abbas al-Quraubi, *al-Mufhim li-min ashkala min talkhis kitab Muslim* (Dar Ibn Kathir 1997) 475.

visitor is in the vicinity, and he or she would feel confined to the house until the visitor left.²¹⁴ From these examples it is clear that “the privacy of the home” can be seen, in several ways, as central to the right to privacy in Islamic law.

It must be stated here that the requirement to ask permission is applicable to everyone without exception, including individuals, government authorities and the police. A blind person is not exempt from this requirement, as attested by one hadith that “the purpose of obtaining permission is to validate viewing”. This is because hearing in this case is a proxy for viewing, and the privacy of a home can be violated in many different ways, including by overhearing.

3.2.1 Prohibition on Spying and Suspicion

“Oh you, who have believed, avoid much [negative] assumption. Indeed, some assumption is sin. And do not spy or backbite each other. Would one of you like to eat the flesh of his brother when dead? You would detest it. And fear Allah; indeed, Allah is accepting of repentance and Merciful”.²¹⁵

This Quranic provision expressly prohibits believers from suspicion, spying and backbiting. This means that believers are under an obligation to abstain from these forbidden acts. The verse, therefore, implicitly grants a right to everyone to freedom from these prohibited acts. It should be noted that this Quranic verse does not only address individual believers, but also addresses an Islamic state, government and society as a whole. Therefore, all individuals, whether they are Muslim or non-Muslim individuals, state organs or agents, decision makers or law enforcement agents, must

²¹⁴ Eli Alshech, ‘Notions of Privacy in Classical Sunni Islamic Thought’ (Dphil thesis, The Faculty of Princeton University 2004) 316.

²¹⁵ The Holy Quran, 49 :12

comply with the obligations of this provision. Therefore, no individual should be subject to suspicion or spying.

The prohibition of suspicion in sharia's law is another means of protecting the right to privacy. In this respect, the prohibition of suspicion in this verse means that it is not permissible to act on the basis of suspicion. This is to say that suspicion is a state of mind that cannot be regulated and, therefore, the object of any prohibition is any action based on suspicion.²¹⁶ This may explain the reason it is followed by the imperative "do not spy", which suggests that, if someone is suspected of something, it is not permissible to resort to spying in order to verify this suspicion. As a general rule, individuals under suspicion must not be harassed, since it is no exaggeration to say that most violations of privacy are founded on suspicion.

The danger of suspicion is stressed by one scholar in the following terms: "Suspicion is the cause and source of spying. By prohibiting suspicion, the root of spying is dealt with".²¹⁷ Because society is based on trust and good faith, suspicion is harmful to its health because suspicion harms relations between citizens and between the government and citizens.²¹⁸

It is important to point out that the Quranic provision requires individuals to "avoid much suspicion" and states that "some suspicions are sins". The fact that the word "suspicion" is to some extent semantically fluid complicates matters. What types of suspicion are prohibited in the provision? Are there cases in which suspicion is permissible? And how can one differentiate between different types of suspicion?

²¹⁶ Mohammad Habibi Mojandeh, 'Privacy in Islam and Iranian Law' (30 November 2007) British Institute of International and Comparative Law workshop on privacy < https://www.biiicl.org/files/3198_dr_habibi_presentation.doc > accessed 14 August 2021.

²¹⁷ Ibid 3.

²¹⁸ Ibid 3.

Muslim scholars distinguish between two basic types of suspicion. The first is strong and well-founded suspicion which has an evidential basis. This type can obviously justify government intrusion into an individual's private affairs and might even prompt an individual to intrude on a fellow citizen's privacy, in which case the offended party can summon the authorities in order to thwart the offender.

Although the prohibition of spying or surveillance is clear in this verse, it does not set out explicitly the types of spying it prohibits. Spying normally involves the surveillance of private individuals or state agencies. The former often occurs in totalitarian states where security services are deployed to suppress political dissent by such expedients as obtaining kompromat with which to blackmail opposition politicians. Spying is also conducted between states; for example, during wartime, a state sends spies to gather military information about its enemies.

During the Cold War, spying was a major element in the antagonistic back-and-forth between the United States and the Soviet Union. However, beyond that concrete geopolitical context of agency, strategy and tactics, spying may be conceptualized with varying levels of abstraction or attention to context, as Muslim scholars have done. Some associate spying with warfare and, on that basis, they describe spying as a "state-based activity" and a spy as one who gathers information for their government.²¹⁹ For one Muslim scholar, spying is the 'search for signs or information in order to know what is otherwise not known and thus impermissible by sharia'a law'.²²⁰ This is a broad definition in the sense that it can include spying by Muslims on both Muslims and non-Muslims, as well as by enemies.

²¹⁹ Mohammad Rakkān Al-Dughmi, *spying and its rulings in Islamic sharia'a* (Dar Al Salam for Printing, Publishing and Distribution 1985) 29-30.

²²⁰ Mohammad Kamali, *The Dignity of Man: An Islamic Perspective* (The Islamic Texts Society 2002) 180.

The second form of spying distinguished by Muslim scholars is undertaken for the protection of others and society more broadly, and for the prevention of disorder and crime (that is, by necessity). Although Muslim scholars agree that spying against enemies is permissible, the prohibition on spying in the Quran and Sunna appears to be unqualified and general. In terms of doctrinal authority, scholars rely on a Quranic verse in *surat al-Nisa* in which God requires Muslims to take precautions in wartime against their enemies²²¹ which would obviously include recourse to spying. There are also incidents in which the Prophet and his Companions had recourse to spying in order to surveil their enemies (identify their weaknesses and strategies, gauge the size of their forces, and so on).²²²

In addition, Muslim scholars agree that spying is permitted in cases of necessity, such as to prevent crime, protect public security, and so forth. However, they disagree about the circumstances in which government authorities may legitimately carry out espionage. For example, one scholar argues that government authorities cannot justify spying on the grounds of suspicion alone; rather, they must have evidence-based suspicions about the perpetration of a crime, such as a report by a trustworthy person.²²³ Another makes the same case, but adds that recourse to spying founded on suspicion alone is permissible if there is proof that more important interests are at stake.²²⁴

²²¹ Mohammad Rakkan Al-Dughmi, *spying and its rulings in Islamic sharia'a* (Dar Al Salam for Printing, Publishing and Distribution 1985) 58 – 73.

²²² Ibid 55.

²²³ Mohammad Kamali, *The Dignity of Man: An Islamic Perspective* (The Islamic Texts Society 2002) 188.

²²⁴ Ibid 188.

3.2.2 Privacy of Information

Sharia'a law contains a number of explicit safeguards that are designed to protect private information, such as forbidding the unauthorised acquisition of private information, the disclosure of private information given in confidence, and the concealing of wrongdoing by others.²²⁵ In earlier periods, the protection of private information was limited to information deemed to be damaging to a person's name or reputation. Information about previous misconduct was protected privacy provisions; for example, a guardian could not disclose the sexual history of his female ward to a prospective husband.²²⁶ The disclosure of this information would result in great harm to the woman, and her chances of getting married in the future would be very slim. In addition, such disclosure does not constitute a legal requirement of the marriage contract because the risk of significant harm to the woman and her reputation "justifies legally enforcing the woman's privacy".²²⁷

Another important context for privacy of information is testimony. Although a witness is obliged to testify truthfully under sharia'a law,²²⁸ in some circumstances, some scholars allow a witness to withhold testimony. Furthermore, some scholars prohibit a witness from testifying in certain circumstances. However, Muslim scholars differ regarding the circumstances in which testimony must be given; testimony can be given

²²⁵ Abraham Marcus, 'Privacy in Eighteenth-Century Aleppo: The Limits of Cultural Ideals' (1986) 18 *International Journal of Middle East Studies* 174.

²²⁶ Abu'l Walid Ibn Rushd Al-Qurtbi, *Al-Bayan Wa'l-Tahsil* (Dar al-Gharb al-Islami 1988) 262.

²²⁷ Eli Alshech, 'Notions of Privacy in Classical Sunni Islamic Thought' (Dphil thesis, The Faculty of Princeton University 2004) 316.

²²⁸ Eli Alshech, 'Notions of Privacy in Classical Sunni Islamic Thought' (Dphil thesis, The Faculty of Princeton University 2004) 92

if a witness has been requested to do so either by a court or concerned party.²²⁹

For example, witnesses have a right to withhold testimony about misconduct carried out in private, as long as there is no breach of the rights of others. In relation to offences punishable as *hudood* (the rights of God), such as unlawful sexual intercourse (*zina*), witnesses have a right to withhold information provided that the misconduct is not publicly known. Some scholars prohibit a witness from testifying if the injured party has not requested them to do so, as long as the injured party is aware of the harm caused.²³⁰

In a similar context, under sharia's law everyone is required to limit the spread of knowledge of the wrongdoings and failings of others. From the perspective of sharia's law, knowledge of evil is deleterious to the social fabric and its dissemination should be curtailed.²³¹ If someone comes upon information, from whatever source, to the effect that someone has done something illegal, they are not permitted to make this information public.²³² Wrongdoing committed by individuals in the privacy of their own homes and that do not compromise the rights of others must not be subject to investigation, dissemination or reporting. Individuals may claim to have the right to practice the Islamic public duty of enjoining good and forbidding evil; however, this

²²⁹ Mohammad Kamali, *The Dignity of Man: An Islamic Perspective* (The Islamic Texts Society 2002) 224.

²³⁰ Eli Alshech, 'Notions of Privacy in Classical Sunni Islamic Thought' (Dphil thesis, The Faculty of Princeton University 2004) 91

²³¹ Those who try to spread news of evil acts committed or allegedly committed by others are strongly admonished in the Qur'an and condemned to severe punishment in the hereafter. The Qur'an says: "Indeed, those who like that immorality should be spread [or publicized] among those who have believed will have a painful punishment in this world and the Hereafter. And Allah knows and you do not know". (24:19)

²³² There are many hadiths that discourage people from reporting their sins which, if proved, would make them liable to punishment according to Islamic jurisprudence. Therefore, self-incrimination is also condemned.

could lead to intrusion upon individuals' private domains in the form of reports to the authorities about their private activities.

Individuals may justify such reporting by invoking the duty of forbidding evil on the grounds that public shaming deters others from committing wrongdoing.²³³ This is incompatible with the general principles of sharia's law, however, as violating the privacy of others and damaging their reputation is itself a much greater sin than the offence they are seeking to eradicate.²³⁴ According to sharia's principles, it is highly preferable to keep wrongdoings private and concealed from the public gaze.²³⁵ However, it is important to note that not every sin should be kept private. If information concerns cases of unlawful bloodshed, rape or any act that violates the rights of others or society, it is incumbent on all to report it to the authorities. In this regard, the Prophet Mohamad states that "All (private) meeting is deemed to be confidential, except three: those that discuss unlawful bloodshed, adultery, and misappropriation of the property of others".²³⁶

In the late ninth century, the scope of private information was expanded to include any matter that a person wishes to conceal from others regardless of its potential to harm

²³³ Backbiting is criticising the faults and shortcomings of individuals to others in their absence. According to a famous hadith, "Backbiting is as evil when the information is true as it is when it is false". See also; Sadiq Reza, 'Islam's Fourth Amendment: Search and seizure in Islamic Doctrine and Muslim Practice' (2009) 40 *Georgetown Journal of International Law* 793.

²³⁴ Mohammad Habibi Mojandeh, 'Privacy in Islam and Iranian Law' (30 November 2007) British Institute of International and Comparative Law workshop on privacy <https://www.biicl.org/files/3198_dr_habibi_presentation.doc> accessed 14 August 2021.

²³⁵ The Prophet states: "Avoid these filthy practices which Allah, the Almighty has prohibited. He who commits any of these, should conceal with Allah's Most High Veil (i.e., should not speak about it), and should turn to Allah, the Most High in repentance, for if anyone uncovers his hidden sins (to us), we shall inflict on him the punishment prescribed by Allah, the Almighty." See also; 'The Hadith of the Prophet Muhammad at your fingertips' available at <<http://sunnah.com/urn/2115090>> accessed 20 March 2016.

²³⁶ Mohammad Kamali, *The Dignity of Man: An Islamic Perspective* (The Islamic Texts Society 2002) 214.

that person or their reputation.²³⁷ Therefore, the disclosure of information without serious justification is prohibited,²³⁸ and late scholars extended this protection to include medical information. In addition, medical doctors are under an obligation to patient confidentiality and cannot publish their patients' clinical data without permission.²³⁹ Moreover, sexual matters will usually be regarded as private in sharia's law.²⁴⁰ In this regard, the disclosure of marital matters by either spouse is prohibited.²⁴¹ Furthermore, it is important to point out that Islamic principles of privacy give individuals a right of control over their personal information. One scholar asserts this with reference to a famous hadith of the Prophet which states that "people have control over their property".²⁴² This to say that no one may disclose or gather personal information about others without their consent. It follows from this that every individual has the right to determine when, how, and to what extent information about them is communicated to the public.²⁴³

The discussion above has clarified the idea of privacy, its origins and evolution as well as specified when the right to privacy is violated from an Islamic perspective. Regarding

²³⁷ Eli Alshech, 'Notions of Privacy in Classical Sunni Islamic Thought' (Dphil thesis, The Faculty of Princeton University 2004) 98.

²³⁸ Abu Ya'qub al-Sijistani, *Nuzhat al-Qulub fi Tafsir Gharib al-Quran* (Dar al Marefa for Printing and Publishing 2013) 171.

²³⁹ Man Baker and Anas Jerab, 'Disclosure Of Patient'S Medical Record To The Spouse An Islamic Law Perspective' [2021] Alwasl University Journal 15.

²⁴⁰ Mohammad Kamali, *The Dignity of Man: An Islamic Perspective* (The Islamic Texts Society 2002) 218.

²⁴¹ Ibn Qudama, *Almughni* (Dar Al-Fikr 1984) 232.

²⁴² It is important to point out that personal data is considered a form of intangible property. See Muhammad Aslam Hayat, 'Privacy and Islam: From the Quran to data protection in Pakistan' [2007] Information and Communication Technology Law 143.

²⁴³ Ibid 143.

electronic commerce services that depend on the processing of personal information, this research seeks to understand and underscore the importance of information privacy. This is because the completion of electronic commerce transactions requires the surrender of personal data (as defined in section 2.2) and, therefore, makes electronic commerce an area of concern about data protection. With this in mind, the following sections will explore the importance of personal data for the state, individuals, and companies, and determine the circumstances in which the processing of personal information violates rights to data privacy from national and international legal perspectives.

3.3 Relationship between Information Privacy and Personal Data

Information privacy is a focus of this research. It is not reducible to data protection because privacy covers a broad range of phenomena within which information privacy is a subset.²⁴⁴ This section will discuss this type of privacy further and review the relationship between information privacy and personal data.

In some countries the term “privacy” refers to the set of principles which in other countries is referred to as “data protection”. In other countries, “data protection” may mean “information security” and overlap only slightly with “privacy”.²⁴⁵ In this case, the term “data protection” may encompass more than just the protection of personal information (but only through security measures). It may also cover the protection of confidential or valuable information, trade secrets, or similar information assets. The Global Privacy and Security Law promulgated by the United Nations Conference on Trade and Development in 2016 provides an in-depth analysis of the laws of some 70

²⁴⁴ Samuel Warren and Louis Brandeis, ‘The right to privacy’ (1890) 4 Harvard Law Review 193.

²⁴⁵ Tariq Rashid, ‘Legal protection of personal data in the digital age: a comparative study’ (2019) 92 Journal of Law and Economics 190.

countries from all continents and notes that usage of the terms “privacy” and “data protection” varies from country to country.²⁴⁶ It may depend on the language spoken in that particular country or on the broader region in which the country is located.

The language difference can be seen obviously in the United States, where the term “privacy” seems to prevail when identifying the rules and practices regarding the collection, use and processing of personal information. Outside the United States, the term “data protection” tends to be more widely used than “privacy”. Among other things, this might be due to the idiosyncrasies of the languages spoken in the respective countries, as explained below.²⁴⁷ As a conclusion one might say: “There are undoubtedly important differences between EU and US approaches to privacy. In particular, the EU provides considerable safeguards against intrusions on privacy by the public sector, whereas US law largely ignores the threats posed to privacy by the private sector, focusing almost exclusively on regulating governmental intrusions”.²⁴⁸

3.4 Legislative Developments: Privacy Protection Frameworks

The development of personal data protection laws have progressed in tandem with the development of information and communication technologies. This began with the digitalization of administration within public and private institutions and the emergence of the capacity to identify a person through an identification number or a unified digital

²⁴⁶ United Nation Conference On Trade and Development: (Data protection regulations and international data flows: Implications for trade and development) - New York and Geneva, 2016 – p .no 101.

²⁴⁷ Maria Tzanou, ‘The EU-US Data Privacy and Counter-Terrorism Agreements: What Lessons for Transatlantic Institutionalisation?’ [2017] SSRN Electronic Journal 55.

²⁴⁸ David Cole and Federico Fabbrini, ‘Bridging the transatlantic divide ? The United States, the European Union, and the protection of privacy across borders’(2016) 14(1) International Journal of Constitutional Law 220.

identity.²⁴⁹ This raise citizens' concerns about issues such as privacy and surveillance and required that legislatures take steps to protect privacy and individual freedoms from the threats posed by digitalization. With awareness of the potential of technology and the importance of the role the internet,²⁵⁰ legislative attention has focused on protecting personal data to safeguard individual's rights while maintaining the free flow of information.²⁵¹ In the course of this, countries have come to recognise the need for cooperation to harmonise the achievement of these goals and provide a safe environment in which global data may move freely across national borders.²⁵² In this context, a number of international and national organizations have laboured to produce a corpus of recommendations, guidelines and agreements with a view to protecting individuals from the threats to their rights and freedoms posed by modern technologies and to supporting the development of the free flow of information exchange.

The issue of jurisdictions is crucial because it constitutes a major obstacle standing in the way of unifying or cohering legal frameworks at the international level. What is being referred to here are the international efforts to reduce the anxiety and apprehension that accompany the transfer of data across national borders. It is well understood that enacting laws that guarantee the protection of personal data may help to alleviate some of the fears surrounding data exchange. For example, the European Union successfully persuaded Egypt and the Arab Gulf states to adopt laws that provide

²⁴⁹ Clare Sullivan and Eric Burger, 'In the public interest the privacy implications of international business-to-business sharing of cyber-threat intelligence' (2017) 33(1) Computer law and security review 14.

²⁵⁰ Barry Leiner and others, 'A brief history of the Internet' (2009) 39(5) ACM SIGCOMM Computer Communication Review 22.

²⁵¹ Sultonali Mexmonov, 'Actual issues of electronic commerce development in the republic of Uzbekistan' (2020) 33(1) International Journal of Financial Management and Economics 39.

²⁵² Kenneth C. Laudon and Carol Guercio Traver, *E-commerce: business, technology, society* (4 Edition, Pearson Education 2017)110.

legal protection for personal data as a prerequisite for conducting electronic exchange and data sharing.

3.5 Legislative Developments at the International Level

The most notable examples at the international level in this area are: the recommendations of the Organization for Economic Cooperation and Development, UN General Assembly Resolution 45/95²⁵³, and the EU's General Data Protection Regulation of 2016.²⁵⁴

3.5.1 Recommendations of the Organization for Economic Cooperation and Development

Since the mid-1970s, the Organization for Economic Cooperation and Development (OECD) has played a fundamental role in promoting the right to privacy as a fundamental value and a condition for ensuring the free transborder flow of personal data. To this end, it drew up and approved guidelines to protect this right and the free movement of data.

In 1980, the OECD Council issued a set of recommendations to member countries titled of "Guidelines on the Protection of Privacy and Transborder Flows of Personal Data".²⁵⁵ In the context of the interests of OECD member states, these

²⁵³ United Nation Digital Library, 'Guidelines for the Regulation of Computerized Personnel Data Files: resolution / adopted by the General Assembly' < Guidelines for the Regulation of Computerized Personnel Data Files : (un.org)> accessed on 28/5/2022.

²⁵⁴ OECD, 'Guidelines on the Protection of Privacy and Transborder Flows of Personal Data' (1980) <<http://www.oecd.org/sti/ieconomy/oecdguidelinesontheProtectionofPrivacyandTransborderFlowsOfPersonalData.htm>> accessed 14 August 2021. See also; OECD, 'Thirty Years After the OECD Privacy Guidelines' (2011) <<https://www.oecd.org/sti/ieconomy/49710223.pdf>> accessed 14 August 2021.

²⁵⁵ OECD, 'Guidelines on the Protection of Privacy and Transborder Flows of Personal Data' (1980) <<http://www.oecd.org/sti/ieconomy/oecdguidelinesontheProtectionofPrivacyandTransborderFlowsOfPersonalData.htm>> accessed on 6 of August 2021.

recommendations sought to reconcile the contradictory relation between the right to privacy and the imperative that information flow freely across national borders.²⁵⁶

In the introduction, the Council argues that the free flow of personal data across borders is a key factor driving economic and social growth. This requires that member states ensure that private personal data and individual freedoms are not violated within a coherent legal and regulatory framework that enables cross-border data flows.²⁵⁷

Following these recommendations, a treaty was concluded in 1981, known as the International Privacy Convention No. 108,²⁵⁸ with the aim of reconciling freedom of information exchange and protection of individuals' right to privacy. This agreement is considered the first internationally binding text on the issue of privacy and cross-border data flows. It requires member states to legislate to implement the principles it sets, which aim to ensure respect for the basic human rights.²⁵⁹

²⁵⁶ OECD, 'Guidelines on the Protection of Privacy and Transborder Flows of Personal Data' (1980) <<http://www.oecd.org/sti/ieconomy/oecdguidelinesontheProtectionofPrivacyandTransborderFlowsofPersonalData.htm>> accessed on 6 of August 2021.

²⁵⁷ Ibid.

²⁵⁸ The Council of Europe Convention 108 is widely known as the International Privacy Convention, first open for signing by member states on 28 January 1981. The convention was recently updated to align it with the EU's General Data Protection Regulation <<https://www.coe.int/en/web/conventions/full-list?module=treaty-detail&treaty-num=108>> accessed 14 August 2021.

²⁵⁹ Elizabeth Borod, 'An Annotated Reference Guide on International Telecommunications and Transborder Data Flow for Library and Information Science Professionals' (Master Research, Kent State University School of Library Science 1990).

3.5.2 General Assembly Resolution 45/95

On December 14 1990, the United Nations General Assembly approved resolution 45/95 that includes guidelines for organizing personal data files.²⁶⁰ These guidelines note the full range of protection issues in terms of the scope of their application, which includes all parties concerned with the collection and processing of data, whether public or private, and by calling for an expansion of the scope of application to include legal in addition to natural persons.²⁶¹

They also address these issues at the national level in terms of the principles that must be approved, any exceptions, the need to appoint oversight powers and penal sanctions. At the international level, it sets out the customs and principles of transborder data flow, and the applicability of the principles to international governmental and non-governmental organizations.²⁶² The concerned states are obligated to implement in their legislation the following principles:²⁶³

- **Principle of lawfulness and fairness:** Information about persons should not be collected or processed in unfair or unlawful ways, nor should it be used for ends contrary to the purposes and principles of the Charter of the United Nations.²⁶⁴

²⁶⁰ UN General Assembly, 'Guidelines for the Regulation of Computerized Personal Data Files' (14 December 1990) <<https://www.refworld.org/docid/3ddcafaac.html>> accessed 22 August 2021.

²⁶¹ Simmons Camisha, 'Privacy Law Compliance in Bankruptcy: The EU's New GDPR' (2018) 37(10) American Bankruptcy Institute Journal 18.

²⁶² Donald F. Norris, 'Regulating Privacy: Data Protection and Public Policy in Europe and the United States. By Colin J. Bennett. Ithaca: Cornell University Press, 1992. 263p. \$39.95 Cloth, \$16.95 Paper' (1993) 87(4) American Political Science Review 1035.

²⁶³ United Nation Group, 'Data Privacy, Ethics and Protection Guidance Note on Big Data for Achievement of the 2030 Agenda' (November 2017) <https://unsdg.un.org/sites/default/files/UNDG_BigData_final_web.pdf> accessed 18 August 2021.

²⁶⁴ Damian Clifford and Jef Ausloos, 'Data protection and the role of fairness' (2018) 37(1) Yearbook of European Law 130.

- **Principle of accuracy:** Persons responsible for the compilation of files or those responsible for keeping them have an obligation to conduct regular checks on the accuracy and relevance of the data recorded and to ensure that they are kept as completely as possible in order to avoid errors of omission and that they are kept up to date regularly or when the information contained in a file is used, as long as they are being processed.²⁶⁵
- **Principle of purpose-specification:** The purpose which a file is to serve and its utilization in terms of that purpose should be specified, legitimate and, when it is established, receive a certain amount of publicity or be brought to the attention of the person concerned, in order to make it possible subsequently to ensure that:
 - All the personal data collected and recorded remain relevant and adequate to the purposes so specified.
 - None of the said personal data is used or disclosed, except with the consent of the person concerned, for purposes incompatible with those specified;
 - The period for which the personal data are kept does not exceed that which would enable the achievement of the purposes so specified.²⁶⁶
- **Principle of interested-person access:** Everyone who offers proof of identity has the right to know whether information concerning them is being processed and to obtain it in an intelligible form, without undue delay or expense, and to have appropriate rectifications or erasures made in the case of unlawful, unnecessary or

²⁶⁵ Dara Hallinan and Frederik Zuiderveen borgesius, ‘Opinions can be incorrect! In our opinion: on data protection law’s accuracy principle’ (2020)10(1) Oxford Academy 1.

²⁶⁶ Maximilian Von Grafenstein, *The principle of purpose limitation in data protection laws*, ISBN 978-3-8452-9084-3 (Nomos Verlagsgesellschaft mbH and Company KG 2018) 250.

inaccurate entries and, when it is being communicated, to be informed of the addressees.²⁶⁷

- **Principle of non-discrimination:** Unlawful or arbitrary discrimination, including information on racial or ethnic origin, colour, sex life, political opinions, religious, philosophical and other beliefs as well as membership of an association or trade union, should not be compiled.²⁶⁸
- **Principle of security:** Appropriate measures should be taken to protect the files against both natural dangers, such as accidental loss or destruction and human dangers, such as unauthorized access, fraudulent misuse of data or contamination by computer viruses.²⁶⁹

The guidelines also call for the establishment of a supervisory authority to be responsible for supervising the observance of the principles set forth above, and the methods of its implementation.²⁷⁰ They also call for the investigation of violations and mechanisms ensuring the pursuit of the violators.²⁷¹

They also indicate the need for states to work to incorporate these principles of international governmental and non-governmental organizations by putting in place the

²⁶⁷ Daniel Pluta, Wolfgang Hommel and Peter Weinert, 'Identity & Access Control Management Infrastructure Blueprint—Design Principles for True Informational Self-Determination' (Conference held in Germany on 10th – 11th October 2011) <<https://ldapcon.org/2011/downloads/plutahommelweinert-paper.pdf>> accessed 6 September 2021.

²⁶⁸ Magda Levantezi, Helena Eri Shimizu and Volnei Garrafa, 'The principle of non-discrimination and non-stigmatization : reflections on leprosy' (2020) 28(1) *Bioethics Journal* 17.

²⁶⁹ Hezam Akram Abdulghani and others, 'A Study on Security and Privacy Guidelines, Countermeasures, Threats: IoT Data at Rest Perspective' (2019) 11(6) *Symmetry* 774.

²⁷⁰ Nguyen Binh Truong and others, 'Gdpr-compliant personal data management: A blockchain-based solution' (2019) 15 *IEEE Transactions on Information Forensics and Security* 1746.

²⁷¹ Damian Tamburri, 'Design principles for the General Data Protection Regulation (GDPR): A formal concept analysis and its evaluation' (2020) 91 *Information Systems* 101469.

necessary legislation which obliges them to respect and protect personal data and the rights of persons concerned with it, and to secure mechanisms that guarantee their right to prosecute actions that contradict their right to maintain their data correctly and accurately and to prevent it being used or disclosed illegally.

3.5.3 European Data Protection Regulation 2016

It is clear by now that any discussion of the need to protect the right to data privacy will involve the recognition of the right to request the erasure of personal data as a guarantee of the right to be forgotten. This is in relation to data that is often secretly collected and published on the Internet without any adequate access restrictions, which is then sold and circulated without the knowledge of its owner. The complex legislative tapestry of the European Union, which consists of 27 national jurisdictions each with their own legislative provision for the protection of personal data, was not adequate to cope with the rapidly developing and escalating threats to which individuals, organizations and companies in Europe were exposed.²⁷² In this context, the General Data Protection Regulation (GDPR) was adopted by the European Parliament and Council on April 27 2016 and came into force on 25 May 2018 to regulate the protection of natural persons' data privacy rights in the context of data flows across the EU and between the EU and other regions. The GDPR aims to establish a single, pan-European legal framework for data protection in order to enhance transparency, support the rights of individuals and the growth of the digital economy.²⁷³

²⁷² Gregory Voss, 'European union data privacy law reform: General data protection regulation, privacy shield, and the right to delisting' (2016) 72(1) *The Business Lawyer* 221.

²⁷³ Efren Diaz, 'The new European Union General Regulation on Data Protection and the legal consequences for institutions' (2016) 1(1) *Church, Communication and Culture* 206.

Undoubtedly, it is important for commercial companies operating within the single European market to avoid the difficulty of navigating different sets of national laws.²⁷⁴ In addition to providing enhanced protection to raise confidence levels, it greatly simplifies legal compliance for companies since they can now treat the EU as a single jurisdiction in terms of data privacy legislation.²⁷⁵ One of the factors that incentivizes commercial companies to work in the EU is that it operates as a single jurisdiction for the purposes of electronic commerce, the development of which is an objective of the trading bloc. Indeed, it has succeeded in attracting a good deal of investment to the electronic commerce sector. By contrast, other trading blocs have not been successful in this and the main obstacle that hinders them is a failure to adopt unified legislative systems.²⁷⁶

The GDPR also responds to two further needs: (1) to build confidence in the use of cyberspace; and (2) to keep pace with rapid developments in the field of information technology.²⁷⁷ It is no longer possible to predict the extent and reach of information processing technology capabilities, or the effects of extensive data collection via a variety of technologies either on the inviolability of personal privacy or on the security of states which collect, process and exchange personal data.²⁷⁸ The power of modern technologies in the field of data processing and collection make the task of providing

²⁷⁴ Gregory Voss, 'European Union data privacy law reform: General data protection regulation, privacy shield, and the right to delisting' (2016) 72(1) *The Business Lawyer* 221.

²⁷⁵ *ibid*

²⁷⁶ *ibid*

²⁷⁷ Efren Diaz, 'The new European Union General Regulation on Data Protection and the legal consequences for institutions' (2016) 1(1) *Church, Communication and Culture* 206.

²⁷⁸ Gregory Voss, 'European Union data privacy law reform: General data protection regulation, privacy shield, and the right to delisting' (2016) 72(1) *The Business Lawyer* 221.

legal and practical protection for personal data privacy rights in contexts such as electronic commerce particularly challenging.

The GDPR introduced profound and radical changes to the legal provisions for the protection of personal data and privacy rights by establishing a strict framework based on basic human rights and the challenges posed by the contemporary digital world.²⁷⁹

In order to protect data and its owners' right to privacy, the GDPR imposed new rules on companies, government departments and organizations of any legal form which provide services to EU citizens and residents or collect and process their data, even if they reside outside the EU.

The GDPR also provides mechanisms by which owners may regain control of their personal data and grants them greater scope to monitor access to their data and its publication and exchange.²⁸⁰ It codifies and normalizes a number of new rights, such as the right to be forgotten and the right to know the objectives of processing, even by the controller or any individual responsible for the processing who did not personally collect the data.

The GDPR establishes, for example, the right of an EU citizen or resident to request an electronic copy of their data accompanied by any resources required to view it (downloading data that one cannot view would clearly serve no purpose).²⁸¹ In concrete terms, this involves enabling the individual in question to track their own internet history in terms of such things as: number of e-mails sent, number of social media

²⁷⁹ Gregory Voss, 'European Union data privacy law reform: General data protection regulation, privacy shield, and the right to delisting' (2016) 72(1) *The Business Lawyer* 221.

²⁸⁰ The consideration of a processor's activities in determining the territorial scope of the GDPR reflects the greater accountability of processors under the GDPR than was the case under the former Data Protection Directive 95/46.

²⁸¹ Article 2 of the European General Data Protection Regulation 2016.

logins, time spent on search engines, the search terms used, music downloaded to portable hardware, etc.

Obtaining data in this way also means that it can be reused by uploading it to a website or application other than the one used by the data owner.

The new rules differ the 1995 Data Protection Directive²⁸² in that they have the direct force of law and do not require enactment by national legislatures to authorize executive action.²⁸³ Article 1 defines the objective and purpose of the GDPR.²⁸⁴ In addition, provisions are included to ensure the free flow of data within a framework of respect for individuals and their rights as recognized in international and national human rights law.²⁸⁵

Although the GDPR aims to cohere legislation on data protection across all territories of EU member states, its effects are not limited to these territories; companies operating outside the EU that have trading and market relations with the EU or entities within it will also have to adhere to the GDPR.²⁸⁶

²⁸² Directive 95/46/EC on the protection of individuals with regard to the processing of personal data and on the free movement of such data, OJ L 281, 23.11.1995, p. 31

²⁸³ Article 99 - 1. These regulations come into force on the twentieth day following their publication in the Official Journal of the European Union., 2. It shall apply from 25 May 2018. This Regulation is binding in its entirety and directly applicable in all Member States.

²⁸⁴ Article 1:

1. This Regulation lays down rules relating to the protection of natural persons with regard to the processing of personal data and rules relating to the free movement of personal data.
2. This Regulation protects fundamental rights and freedoms of natural persons and in particular their right to the protection of personal data.
3. The free movement of personal data within the Union shall be neither restricted nor prohibited for reasons connected with the protection of natural persons with regard to the processing of personal data.

²⁸⁵ See articles no 5 -11 and 12 -23 of GDPR

²⁸⁶ Gregory Voss, 'European Union data privacy law reform: General data protection regulation, privacy shield, and the right to delisting' (2016) 72(1) The Business Lawyer 221.

In addition to adopting appropriate protection policies, companies will have to use new mechanisms for data mining, discovery, reporting violations, interacting with the public and improving security conditions for their data systems.²⁸⁷ Moreover, non-resident companies will have to appoint a representative within the European Union to ensure compliance with the provisions of the legislation.²⁸⁸

If an EU citizen or resident uses a networked service or application on their cell phone outside the European Union, then the processor of the data collected will be responsible for ensuring its protection and will be held accountable for any privacy violations.²⁸⁹

The GDPR sets down the penalties for breaches of privacy, for example, companies will be fined a certain percentage of their annual profits if they are found to have violated any GDPR provisions.²⁹⁰

Note that the situation will become more difficult and onerous as internet users become aware of their rights, for example the right to claim compensation for the damage resulting from the illegal processing of their data or its loss and exposure.²⁹¹

The GDPR's security measures for data protection allow for more effective protection that enhances the cybersecurity of companies and individuals alike and can enhance companies' brand and reputation.²⁹²

²⁸⁷ Martin Brodin, 'A Framework for GDPR Compliance for Small-and Medium-Sized Enterprises' (2019) 4(2) *European Journal for Security Research* 243.

²⁸⁸ Ibid

²⁸⁹ Article 5 GDPR

²⁹⁰ Article 149 GDPR

²⁹¹ Michael Santarcangelo, 'What research reveals about consumer behavior after a security breach' (United State, 26 JAN 2016) <[http:// www.csoonline.com/article /3026578/what-research-reveals-about-consumer-behaveior-after-a-security-breach.html](http://www.csoonline.com/article /3026578/what-research-reveals-about-consumer-behaveior-after-a-security-breach.html)> accessed 18 August 2021.

²⁹² Mohan Menon, 'GDPR and data powered marketing: The beginning of a new paradigm' (2019) 13(2) *Journal of Marketing Development and Competitiveness* 73.

On another level, the new rules reinforce the rights recognized in the 1995 Privacy Directive and recognize a number of new rights for individuals. To properly obtain consent, for example, positive steps have to be taken to communicate the terms and objectives of the data processing clearly and accessibly; if user enquiries are met with evasion or silence, consent will be deemed to have been withheld. In addition, a user who has consented to the processing of their has the right to revoke that consent at any time.

3.6 Sources of threats

The main threats to privacy rights arise from the nature of technology, the absence of appropriate legislative and regulatory frameworks, and the limitations of traditional protection models. The following sections will survey practical examples of these threats to individuals and to organizations in the public and private sectors.

3.6.1 Commercial and individual threats

Despite its recognition by many countries,²⁹³ the right to personal data privacy remains vulnerable to abuse, not only as a result of legislative and regulatory shortcomings and government practices, but also as a result of the tremendous technical capacity offered by contemporary information and communication technologies, the future growth and expansion of which cannot be predicted. As mentioned earlier, for example, recent years have witnessed an expansion of monitoring techniques, data collection, tracking,

²⁹³ The right to privacy is one of the fundamental rights recognized by many states around the globe and in international texts, such as the Universal Declaration of Human Rights, the Bill of Political and Civil Rights, (Article 17) of the International Covenant on Civil and Political Rights, (Article 8) of the European Convention on Human Rights and Freedoms, and (Article 11) of the American Convention on Human Rights.

Article 12 of The Universal Declaration of Human Rights states: “No one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honour and reputation. Everyone has the right to the protection of the law against such interference or attacks.”

processing, exploration, and easy access to individuals in across the globe. In addition to this, coping with the negative consequences of attacks is a difficult and complex matter:²⁹⁴ seized data cannot be recovered, for example, and the process of erasing published data (which may be forged or distorted) is lengthy and fraught with difficulty.²⁹⁵ Moreover, the main risk comes from unauthorized access to personal information databases hosted by private corporations or public authorities.²⁹⁶ In this way, social media is emerging as a new form of social control which empowers any individual to track another's activity and movements²⁹⁷. This control operates on two levels: the first is visible and performed by friends, associates or others who track an individual's activity; and the second is invisible²⁹⁸ and performed by software deployed by search engines and other websites to monitor and analyse individuals' online activity to profile their interests, social networks and personality traits.

In addition to this, software development and IT infrastructure companies have an interest in understanding the extent to which internet users are concerned to protect their privacy. If they can innovate protection techniques, they reason, they will improve their competitiveness.²⁹⁹ These companies might also invest in software which breaches

²⁹⁴ Feng Xu, Katina Michael and Xi Chen, 'Factors affecting privacy disclosure on social network sites: an integrated model' (2013) 13(2) *Electronic Commerce Research* 151.

²⁹⁵ Yunlong Lu and others, 'Blockchain and federated learning for privacy-preserved data sharing in industrial IoT' (2019) 16(6) *IEEE Transactions on Industrial Informatics* 4177.

²⁹⁶ Peter Margulies, 'Sovereignty and cyber-attacks: Technology's challenge to the law of state responsibility' (2013) 14(2) *Melbourne Journal of International Law* 496.

²⁹⁷ Majed Hatamian and Others, 'Revealing the unrevealed : Mining smartphone users privacy perception on app markets' (2019) 83 *Computers & Security* 332.

²⁹⁸ Catherine Han and Othres, 'The Price is (Not) Right : Comparing Privacy in Free and Paid Apps (2020) 3 *Proceedings on Privacy Enhancing Technologies* 222.

²⁹⁹ Alessandro Acquisti and Others, 'What Is Privacy Worth ?'

<https://www.heinz.cmu.edu/~acquisti/papers/acquisti-ISR-worth.pdf> accessed on 8/5/2023

privacy and breaks layers of protection by selling "systems and infiltration programs" to authoritarian states which seek to exercise comprehensive control over their citizens.³⁰⁰

The boundary between society and the individual disappears at the point where users willingly publish their personal data online and this requires a fundamental rethinking of what constitutes the right to privacy.³⁰¹ This is a challenge that requires the intervention of legislators if one of the basic human rights is to be protected. However, this is beyond the scope of this research which takes as its focus the impact of privacy regulation on the growth of electronic commerce in Oman.

There is no doubt that these networks have reinforced the tendency towards excessive self-exposure by algorithmically encouraging their users to curate and publish details of their private lives.³⁰² The greater the number of users of a site, the greater its ability to attract further users.³⁰³ For this reason, social networks attract new users with free membership and cover their overheads by marketizing their user base to advertisers.³⁰⁴

To this end, social networks use data mining techniques to analyse their users' personal data in order to model those users and the social worlds they inhabit. They monetize the results of this data analysis by leasing access to their platform as a space for highly targeted advertising. They make it possible for advertisers (and political campaigners) to tailor messages about products and services for very specific user populations selected

³⁰⁰ Solove Daniel, ' "I've Got Nothing to Hide" and Other Misunderstandings of Privacy' (2007) 44 San Diego Law Review 745.

³⁰¹ Introna, Lucas, ' Privacy and the computer : why we need privacy in the information society. *Metaphilosophy*, (1997) (3) 259.

³⁰² Yuanming Zhang and others, 'A Large-Scale Empirical Study of Internet Users' Privacy Leakage in China' conference held in Japan from 5 – 8 August 2019 (IEEE 2019) < <https://ieeexplore.ieee.org/abstract/document/8890435>> accessed on 14 August 2021.

³⁰³ Ibid.

³⁰⁴ Catherine Han and others, 'The Price is (Not) Right: Comparing Privacy in Free and Paid Apps' (2020) 3 Proceedings on Privacy Enhancing Technologies 222.

for characteristics such as age, locale, patterns of consumption, personal interests, and so on.³⁰⁵ Facebook and other social platforms collect and analyse an enormous amount of data about their users which enables them to profile those users in intimate detail and with a high degree of accuracy.³⁰⁶ It is important to emphasise that the social platforms do not sell their data; rather, they leverage their analysis of user data to sell highly targeted access to their users to advertising companies.³⁰⁷

3.6.2 Commercial threats

Anxiety about the integrity of personal data is one of the most significant threats to the health and growth of electronic commerce.³⁰⁸ At the same time, personal data is very valuable to corporations because it enables them to surveil and profile consumers and to target them for advertising.³⁰⁹ It is important, therefore, that legal frameworks, backed up by enforcement agencies, be put in place to ensure that these companies protect the personal data that consumers surrender to them in the course of internet-mediated commercial transactions. This will increase levels of trust and mitigate the anxiety of electronic transactions.

³⁰⁵ Mary C. Kay Michel and Michael C. King, 'Cyber influence of human behavior : personal and national security, privacy, and fraud awareness to prevent harm' conference held in Medford, USA from 15 -16 2019 (IEEE 2019) <https://ieeexplore.ieee.org/abstract/document/8938009?casa_token=lkrvQdrKaT8AAAAA:kUAP4Obtm9KTQ1KXjcmQcl_mPOnOrJXtL8JD991TE_A2oTEuzPbF4gNJDWuWEROYcsAoE5rkVY4> accessed on 14 August 2021.

³⁰⁶ Catherine Han and others, 'The Price is (Not) Right: Comparing Privacy in Free and Paid Apps' (2020) 2020(3) Proceedings on Privacy Enhancing Technologies 222.

³⁰⁷ Emmanuel Ayaburi and Daniel Treku, 'Effect of penitence on social media trust and privacy concerns: The case of Facebook' (2020) 50 International Journal of Information Management 171.

³⁰⁸ Rakesh Belwal, Rahima Al Shibli and Shweta Belwal, 'Consumer protection and electronic commerce in the Sultanate of Oman' [2020] Journal of Information, Communication and Ethics in Society 7.

³⁰⁹ Jian Yang and Chunxiao Xing, 'Personal data market optimization pricing model based on privacy level' (2019) 10(4) Information 123.

From this standpoint, the most important parts of the UN guidelines are the model legal frameworks designed to ensure the protection of personal data and to encourage its exchange with confidence via the internet. Legal conditions and controls have also been specified for mechanisms which protect personal data.³¹⁰ The risks involved in protecting personal data and their impact on the development of electronic commerce will be described in detail in chapter 4 (Electronic Commerce in Oman). Web browser cookies (snippets of text sent by a server to a web browser) are a good example of technology that stores personal data and should be subject to legal controls. These can hold pieces of information over a specific period of time such as the IP³¹¹ address of the user's computer, its device and processor type, as well as user-entry data such as name, email address, credit card number, home address and other information.³¹² Given the sensitive nature of this information, users must be informed that they are being sent by the server they are visiting and their browser may only accept cookies if the users provide their consent.

³¹⁰ Marc Bacchetta and others, *Electronic Commerce and the Role of the WTO* (WTO Special Studies 1998) 37.

³¹¹ Jon Postel, 'Internet Protocol Dapra Internet Program Protocol Specification' (research project, Information Sciences Institute University of Southern California 1981) <<https://www.hjp.at/doc/rfc/rfc791.html>> accessed 18 August 2021

³¹² Naser Khalel, *Electronic Commerce Trading* (1st edn, Osama House for Publishing and Distribution 2009) 127.

These and other legal controls are designed to protect users from practices such as phishing, the attempted extraction of personal information from users for the purposes of blackmail or identity theft.³¹³

3.6.3 Individual threats

The personal attributes of electronic consumers may also contribute to their anxiety at the prospect of surrendering personal information when shopping online.³¹⁴ These include: relatively low levels of technical literacy;³¹⁵ lack of awareness;³¹⁶ low confidence;³¹⁷ and low levels of trust.³¹⁸ For example, if a consumer does not trust an electronic commerce website, and they will be wary of handing over information such as their credit card number and no purchase will take place. This matter is further addressed in the Chapter on electronic commerce in Oman and the results chapter.

³¹³ Dina Abdel Aziz, 'Responsibility Arising From The Use Of Social Networking Sites' (The 4th Scientific Conference and The Media "Law and the media" (Faculty of Law, University of Tanta 2017)).

³¹⁴ Joshua Meltzer, 'The Internet, Cross-Border Data Flows and International Trade' (2015) 2(1) *Asia and the Pacific Policy Studies* 90.

³¹⁵ Mayada Aref and Ahmed Okasha, 'Evaluating the online shopping behavior among Egyptian college-educated community' [2020] *Review of Economics and Political Science* 21.

³¹⁶ Ruwan Bandara, Mario Fernando and Shahriar Akter, 'Explicating the privacy paradox: A qualitative inquiry of online shopping consumers' (2020) 52 *Journal of Retailing and Consumer Services* 1.

³¹⁷ Haslinda Musa and others, 'Factors Affecting Customer Satisfaction towards Online Shopping' (The 3rd International Conference on Technology Management and Technopreneurship (ICTMT), Technical University of Malaysia Malacca, August 2015)

³¹⁸ Khamis Al-Gharbi and Rafi Ashrafi, 'Factors contribute to slow internet adoption in Omani private sector organizations' [2010] *Communications of the IBIMA* 1.

3.7 Conclusion:

Previous studies document the way in which the concept of privacy in Islamic jurisprudence has evolved from the right to protect the sanctity of the home from trespass to the right to protect personal data.³¹⁹ Counter to this, a review of the Islamic literature finds no evidence of a formal definition of the right to privacy.³²⁰ There is no such ambiguity in the case of Western jurisprudence: the civil case of *Entick v Carrington* in 1762 clearly codifies the right to privacy.³²¹ This sets down the principles according to which the right to privacy is understood in Western jurisprudence as "the right to be left alone".

Moreover, a review of the research literature reveals two distinct approaches to the legal understanding and codification of the concept of privacy: the EU and the US approaches.³²² The EU erects numerous, robust safeguards against intrusions on privacy in the area of personal data across all member states.³²³ In contrast the US law is almost exclusively focus on regulating government intrusions in ways that respect the patchwork of jurisdictional traditions at state level within the US.

The development of personal data protection laws has progressed in tandem with the development of information and communication technologies. At the international level, the OECD Council 1980 issued a set of recommendations to member countries titled "Guidelines on the Protection of Privacy and Transborder Flows of Personal Data

³¹⁹ Abraham Marcus, 'Privacy in Eighteenth-Century Aleppo: The Limits of Cultural Ideals' (1986) 18 *International Journal of Middle East Studies* 174.

³²⁰ Eli Alshech, 'Notions of Privacy in Classical Sunni Islamic Thought' (DPhil thesis, the Faculty of Princeton University 2004) 195.

³²¹ *Entick v Carrington* [1765] EWHC KB J 98

³²² Tariq Rashid, 'Legal protection of personal data in the digital age: a comparative study' (2019) 92 *Journal of Law and Economics* 190.

³²³ Efren Diaz, 'The new European Union General Regulation on Data Protection and the legal consequences for institutions' (2016) 1(1) *Church, Communication and Culture* 206.

”.³²⁴ The Council argues that the free flow of personal data across borders is a key factor driving economic and social growth.

Subsequently, in 1990, the United Nations General Assembly approved resolution 45/95 which included guidelines for organizing personal data files and set out principles in the following areas:

- lawfulness and fairness
- accuracy
- purpose-specification
- interested-person access
- non-discrimination
- security

An important milestone in the development of data protection was the adoption of the General Data Protection Regulation (GDPR) by the European Parliament and Council on 27 April 2016; this came into force on 25 May 2018. The GDPR introduces new rules for companies, government departments and organizations of any kind that provide services to EU citizens or collect and process their data, even if they reside outside the EU. It offers mechanisms that enable individuals to regain control over their personal data, while also granting them more extensive opportunities to monitor access to, publication and exchange of such data.

The review of the research literature revealed the existence of two types of threat to the right to privacy: technical (or commercial) and non-technical (or personal). Technical threats arise when individuals share their personal data in online retail contexts. To

³²⁴ OECD, ‘Guidelines on the Protection of Privacy and Transborder Flows of Personal Data’ (1980)
<<http://www.oecd.org/sti/ieconomy/oecdguidelinesontheProtectionofPrivacyandTransborderFlowsofPersonalData.htm>> accesse on 6 of August 2021.

mitigate these as far as possible, proper legal frameworks supported by enforcement agencies need to be put in place to force companies to safeguard the personal data that consumers share with them during internet-mediated commercial transactions.

Non-technical threats arise from the personal traits of consumers in online retail contexts. These include: lack of technical literacy, insufficient knowledge, and low levels of confidence and trust.

In light of this, the current research will focus on information privacy because the new technologies deployed by retail websites threaten the integrity of private personal data.

Privacy stands as an obstacle to the adoption of electronic commerce for two reasons, one technical and the other non-technical.³²⁵ This is directly articulated in sub-question No. 1: Does privacy constitute an obstacle to the development of electronic commerce in Oman?

The right to privacy clearly needs to be protected by appropriate laws to give consumers the confidence to share their personal data when shopping online. In light of the discussion in this chapter and previous chapters, it is readily apparent that the vulnerability of personal data is one of the main factors that impedes the adequate implementation of electronic commerce. To overcome this requires the provision of appropriate legal protections for consumers that codify and uphold their right to privacy in online retail contexts as a human right.

The next chapter will document the current state and level of development of electronic commerce in Oman as a developing country. This will be done by assessing the extent to which privacy is an obstacle to the development of electronic commerce in Oman and identifying ways of overcoming this.

³²⁵ Juliet Corbin and Anselm Strauss, 'Grounded theory research: Procedures, canons, and evaluative criteria' (1990) 13(1) *Qualitative sociology* 3.

Chapter 4 Electronic Commerce in Oman

4.1 Introduction

This chapter discusses the development of the Information and Communications Technology (ICT) sector in Oman and its role in the implementation of electronic commerce. This will be covered in conjunction with a discussion of Oman's efforts to implement electronic commerce technology, a review of the factors affecting its implementation in Oman, and an assessment of the degree to which information privacy is one of those factors.

In addition, this chapter will review the extant research literature regarding privacy as a factor hindering the high-quality implementation of electronic commerce in Oman. This will focus on legislation in the area of privacy and electronic commerce. That said, the emphasis of this chapter will be on the first, second, and third research sub-questions, which is to say, examining the extent to which privacy constitutes an obstacle to the implementation of electronic commerce in Oman, and whether prior studies on Oman identify further barriers. Moreover, the ways in which regulations affect the implementation of electronic commerce and personal data protection will also be examined. Finally, this chapter will discuss the development of the information and communication technology (ICT) sector in Oman and its role in the implementation of electronic commerce. This will be covered in conjunction with a discussion of the effort within Oman to implement electronic commerce technology, an analysis of electronic transaction law (69/2008) and a review of the factors which influence implementation in Oman, in particular privacy.

4.2 Geographic characteristics of Oman

Oman is divided into 11 main administrative regions: Muscat, Dhofar, Musandam, Buraimi, Al Dakhiliya, Al Batinah North, Al Batinah South, Al Sharqiyah North, Al Sharqiyah South, Al Dhahira and Al Wasta. The current population of Oman is 5,155,824.³²⁶ This increased rapidly between 1970 and 2004 and is expected to reach seven million by 2055.³²⁷ Young people aged 15–29 account for 30 percent of the total population.³²⁸ This rapid population growth can be attributed to many factors, including better healthcare and higher living standards made possible by the discovery of oil in the 1960s. Non-Omanis currently make up around 30 percent of the total population.³²⁹

Oman's historical experience is not unique: like other countries in the Arabian Gulf, oil wealth that enabled it to rapidly build its contemporary infrastructure. It remains a developing country since its renaissance dates back a mere fifty years ago,³³⁰ but it has harnessed considerable energies to advance the country to its current position. Progress has been made in all fields and this development has involved close ties, both regional and international, with the world beyond its borders. Given this openness to the outside world, it is hardly surprising that the country's commercial, civil and governmental spheres was rapidly transformed by the remarkable advancement of contemporary information and communications technology. In addition, since Oman established an

³²⁶ National Center for Statistics and Information in Oman
<<https://www.ncsi.gov.om/Pages/NCSI.aspx>> accessed 16/8/2021.

³²⁷ Mazharul Islam, 'Demographic transition in Sultanate of Oman: emerging demographic dividend and challenges' (2020) 25(1) Middle East Fertility Society Journal 1.

³²⁸ National Center for Statistics and Information in Oman
<<https://www.ncsi.gov.om/Pages/NCSI.aspx>> accessed 16/8/2021.

³²⁹ Ibid.

³³⁰ This began with the assumption to power of His Majesty Sultan Qaboos bin Said in the Sultanate in 1970.

infrastructure of trade and transport hubs (airports and ports),³³¹ it became necessary that commercial transactions be conducted through modern communications technology. As a result, trade by traditional means has receded under the competitive pressure of modern means of electronic commerce. Written records, books, invoices, and other forms of analogue documentation have all been replaced by electronic documents and databases which can be easily transferred and distributed from device to device across networks.³³²

³³¹The port network in the Sultanate of Oman :

1- Port Sultan Qaboos in the Governorate of Muscat, which was established in 1974 as the main port for import and export activities and witnessed continuous development over the years of the renaissance. It currently contains thirteen berths. The government decided in July 2011 to convert Sultan Qaboos Port into a tourist port, and all import and export activities were transferred to Sohar Industrial Port in North Al Batinah Governorate.

2- The port of Salalah in the Governorate of Dhofar is important because of its unique geographical location: it lies at the crossroads of trade between Asia and Europe and provides ready access to several international shipping lines. It is considered one of the main ports for container exchange. Government policy has targeted the expansion of its handling capacity up to current levels: it currently handles five million twenty-foot equivalent units per year distributed over six container berths.

3- Sohar Industrial Port is located in North Al Batinah Governorate. Its current capacity is three million containers and it has the potential to expand to handle more than six million containers.

4- The Port of Duqm in Al-Wusta Governorate is the most recently developed major port in the Sultanate. The government invested more than four billion dollars in it and the first phase of cargo and ship handling operations began in March 2013.

5- Khasab port is located in Musandam Governorate.

6- Shinas Port is located in North Al Batinah Governorate.

Regarding airports, the Sultanate started developing the new Muscat International Airport in 2005 and the first part of it was opened in November 2014.

- The airport capacity in the first phase was (12) million passengers and this will increase to (48) million passengers with the completion of the fourth phase of development.

- There is also Salalah Airport and projects to establish internal airports in Sar, Ras Al-Hadd, Al-Duqm, and Adam. See the website of the Ministry of Transportation and Communications in the Sultanate of Oman <http://www.motc.gov.om/arabicl/.../pefault.aspx>

Also see the website of the Global Arabian Network <http://www.globalarabnetwork.com>

³³² Vitalina Babenko and others, 'Factors of the development of international e-commerce under the conditions of globalization' (SHS Web of Conferences EDP Sciences, 2019) 04016

Oman's policies of attracting foreign investment and diversifying sources of income are the main drivers of ICT transformation, since there are several industrial zones which are the focus of interest from local and international investors. The contribution of the industrial sector to gross domestic product (GDP) is predicted to reach 40% by the end of 2022.³³³ This can only be achieved by growing the ICT field such that it may serve as a platform for interested companies and a means for them to reduce production costs and increase profit margins.³³⁴

Oman enjoys a stable political, economic and social system and has achieved remarkable progress in both the economic and social fields. Comprehensive strategies for economic reform were initiated in Oman when the country joined the World Trade

<https://www.shs-conferences.org/articles/shsconf/pdf/2019/06/shsconf_m3e22019_04016.pdf> accessed on 15 September 2021.

³³³ Several agreements have been signed with a specific international company in the oil and gas sector, such as the Oman Investment Authority's acquisition of a stake in the Dubai Mercantile Exchange in return for which the Authority owns 30% of the exchange.

- The Sohar Oil Refinery Project and the Oman Polypropylene Project launched with an initial investment of one billion and six hundred million US dollars. The Oman Oil Company and the Chinese China Gas Company signed a partnership agreement to establish a joint company with initial capital of forty million dollars.

- The mining sector witnessed a similar development in the Sultanate and there are huge investments in this field, such as the copper mine in the north of Al-Batinah and the dolomite mine in the Wilayat of Qurayyat of the Governorate of Muscat. Dolomite is used to produce the magnesium metal used to manufacture pipes, communication devices and computer sheets. It is also an input into the production of gypsum, limestone and laterite.

- Several major international companies, including a number of highly specialized European ventures, have signed a joint agreement to pursue two tourism projects. The first aims to curate and preserve sites with rare environmental characteristics and attract tourist flows to those areas. The second involves entering into partnerships with major international tourism companies to build an electronic commerce hub which would offer travellers, from the comfort of their own homes, a one-stop shop to book hotels, flights, guided tours and so on. Agoda and similar companies would be the partner organizations. See the website of Investors magazine: <http://wwwmosgcc.com/mos/magazine/article.php> ; See also Minister of Commerce and Investment Promotion, 'A symposium to discuss the economic situation in the Sultanate of Oman' (Conference to discuss the economic situation in the Sultanate of Oman, Oman, April 2022)

³³⁴ Kingsley Osinachi, Onu KO and Ikpinyang Aniekan, 'The use of electronic evidence in trial advocacy in Nigeria: benefits and challenges' [2020] Unizik Law Journal 15.

Organisation (WTO) in 2000 and later signed a Free Trade Agreement (FTA) with the USA in 2009. The WTO and FTA agreements both require Oman to enact regulations that facilitate the implementation of electronic commerce within a secure, trusted online environment which protects consumers.³³⁵

The FTA requires Oman to enact regulations to encourage internal electronic commerce activities and support ICT development. The agreement contains a number of provisions on electronic commerce. It provides that electronic commerce is strategically key because it plays an important role in any economy and, as stated in the joint statement on the issue between the USA and Oman, it will be "an engine of economic growth in the 20th-21st century".³³⁶

Parallel to this, in 2003 the Government of Oman presented the country's digital strategy (Oman Vision) to promote electronic services and Oman as a place ideally suited to launching new, state-of-the-art economic initiatives.³³⁷ On 11th Nov 2008, the late Sultan urged the government to facilitate the integration of ICT into Omani everyday life:

“Information technology and communications have now become the main elements that move forward the development process in this third millennium. We call upon all government to speedily enhance their performance, and to facilitate their services, by

³³⁵ ‘U.S.- Oman Free Trade Agreement: Potential Economy-Wide And Selected Sectoral Effects’ (*Usitc.gov*, 2006) <<https://www.usitc.gov/publications/docs/pubs/2104f/pub3837.pdf>> accessed 17 August 2021.

³³⁶ *Ibid*

³³⁷ ‘Vision Document’ (*2040.om*, 2021) <<https://www.2040.om/Oman2040-En.pdf>> accessed 17 August 2021.

applying digital technology in order to usher the Sultanate into the constantly evolving spheres for applying knowledge”.³³⁸

The current Sultan continued the late Sultan’s legacy of improvement, and commitment to the goals of privatization, liberalization of the economy, and modernization of the law. This is particularly apparent when the current Sultan actively involves himself in the process of implementing the goals of Oman's Vision 2020 and 2040. It was also evident when he issued 28 royal decrees reforming the administrative apparatus of the state in pursuit of the goals of Oman’s vision. Trade liberalization and privatization have also been promoted as major enablers of economic reform aimed at enhancing efficiency and productivity.³³⁹ The Oman vision published a strategy for transforming Oman into a sustainable, knowledge-based economy towards the years 2020-2040. The Oman vision also seeks to develop Omani digital society and enhance electronic government and private services. The Sultan has instructed the government to make it possible for citizens to access public services online and to fight e-illiteracy in order to level up society and open up horizons for development. It is clear from these examples that policymakers in Oman wish to be proactive in disseminating and encouraging adoption of ICT as a means of providing government services. In order to develop the information technology industry in Oman and enhance its competitiveness in regional and global markets, the Oman government founded two government bodies: the Information Technology Authority (ITA) which was established in 2006, and the Telecommunications Regulatory Authority (TRA), founded in 2002. As a result of the

³³⁸ ‘Oman Egovernment Architecture Framework (Oegaf)’ (Oman.om, 2010) < omanportal.gov.om> accessed 17 August 2021.

³³⁹ Graeme Buckley and Gary Rynhart, ‘The Sultanate of Oman the enabling environment for sustainable enterprises: An “EESE” Assessment’ Employment Sector Employment Report No. 14 < International Labour Organization (ilo.org)> accessed on 15 September 2021.

Oman Vision, the ICT sector in Oman has gained momentum over the past ten years and is key to the Oman Vision goals of improving electronic government (e-government) and providing online access to private sector services.³⁴⁰

This vision requires more focus on the Omanization process, digital literacy and generally increasing the capacities of Omani citizens. In this context, the government is actively promoting digital society services and electronic government through the Information Technology Authority (ITA). Some of the most popular government services, such as business registration, customs clearance of imported goods, payment of water and electricity bills, payment of traffic fines, etc. are now accessible on-line.

Despite government interest in the IT sector, it remains below target.³⁴¹ This is clear from the e-readiness rankings of the Economist Intelligence, which ranks Oman 55 out of 64.³⁴² E-readiness means “a measure of the quality of a country’s ICT infrastructure and the ability of its consumers, businesses, and governments to use ICT to their benefit”.³⁴³ However, the government in Oman is investing considerable time and resources into building digital capacities and providing cyber security. This is evident from the Global Cybersecurity Index which ranks Oman top in terms of the legislative

³⁴⁰ ‘Vision Document’ (2040.om, 2021) <<https://www.2040.om/Oman2040-En.pdf>> accessed 17 August 2021.

³⁴¹ Salim Al-Shuaili and others, ‘An Investigate on the Critical Factors that can Affect the Implementation of E-government in Oman’ (IEEE 15th International Colloquium on Signal Processing and Its Applications IEEE 2019) 75.

³⁴² ‘The Network Readiness Index 2019: Towards A Future-Ready Society’ (Networkreadinessindex.org, 2019) <<https://networkreadinessindex.org/wp-content/uploads/2020/03/The-Network-Readiness-Index-2019-New-version-March-2020.pdf>> accessed 17 August 2021.

³⁴³ Hassan Alaaraj and Fatimah Wati Ibrahim, ‘An overview and classification of e-readiness assessment models’ (2014) 4(12) International Journal of Scientific and Research Publications 1.

and capacity-building supports for its digital development.³⁴⁴ However, here lies the problem: uneven development because of lavish investment in some areas but neglect in others and the failure to develop a comprehensive electronic commerce vision. Both of these problems make it difficult if not impossible to assess the real situation in Oman.

When discussing electronic commerce in Oman, scrutiny of the Oman Vision strategy is critical. It plays an important role in all issues related to electronic commerce in Oman. It lays out a framework for the next twenty years and offers an overall national strategy, a comprehensive plan of work for the period 2010-2040 focused on electronic commerce. It seeks to promote legal, technical, and commercial capacities in the electronic commerce sector, to encourage the implementation of electronic commerce at the business and consumer levels and to make Oman one of the most important centres for electronic commerce services in the region.³⁴⁵

Notwithstanding the fact that the ITA has launched several initiatives, it has been under pressure to initiate electronic services that are accessible to and readily usable by citizens.³⁴⁶ In this regard, it is important to upgrade electronic services and, at the same time, take steps to improve citizens' technical literacy.³⁴⁷ In addition, it has been proposed that intensive training should be provided to government employees to improve their technical skills.³⁴⁸ The Oman vision has a long-term digital development

³⁴⁴ 'Global Cybersecurity Index' (ITU, 2020) <<https://www.itu.int/en/ITU-D/Cybersecurity/Pages/global-cybersecurity-index.aspx>> accessed 17 August 2021.

³⁴⁵ 'Oman Vision 2040' (2040.om, 2020) <<https://www.2040.om/en/>> accessed 19 November 2020.

³⁴⁶ Hamed Al-Busaidi, 'A Model Of Intention To Use Mobile Government Services' (DPhil thesis, Victoria University 2012).

³⁴⁷ Qasim Al-Mamari, 'E-Government adoption and implementation in Oman: a government perspective' (DPhil thesis, Royal Melbourne Institute of Technology University 2013).

³⁴⁸ 'Oman Vision 2040' (2040.om, 2020) <<https://www.2040.om/en/>> accessed 19 November 2020.

strategy which several projects have implemented. These include: the electronic awareness, innovation and support centre; international relations; the national disaster recovery centre; electronic law development; the national electronic payment gateway; the information security management framework; the convergent government network; government electronic services; national IT training and awareness services; and the standard framework.³⁴⁹ In 2008, the ITA updated the Oman Vision with an emphasis on three main areas: (1) IT industry development; (2) enabling society and individuals; and (3) electronic government. Furthermore, additional effort was made to strengthen and modernize the relevant laws.³⁵⁰

When evaluating the Oman Vision strategy, academic research identified an implementation weakness: the ITA did not take into account public opinion or the views of government employees, which lead to delays in the initial phase of strategy implementation.³⁵¹ However, although the ITA is responsible for implementing the Oman Vision, it has no authority to impose it on other government agencies; rather, it can only coordinate with those agencies. This lack of authority has resulted in differences between those agencies in terms of their adoption of electronic government services in the initial phase and this led to delays in the ITA's implementation.³⁵² There are 12 critical barriers to the adoption of Oman Vision electronic services and these vary

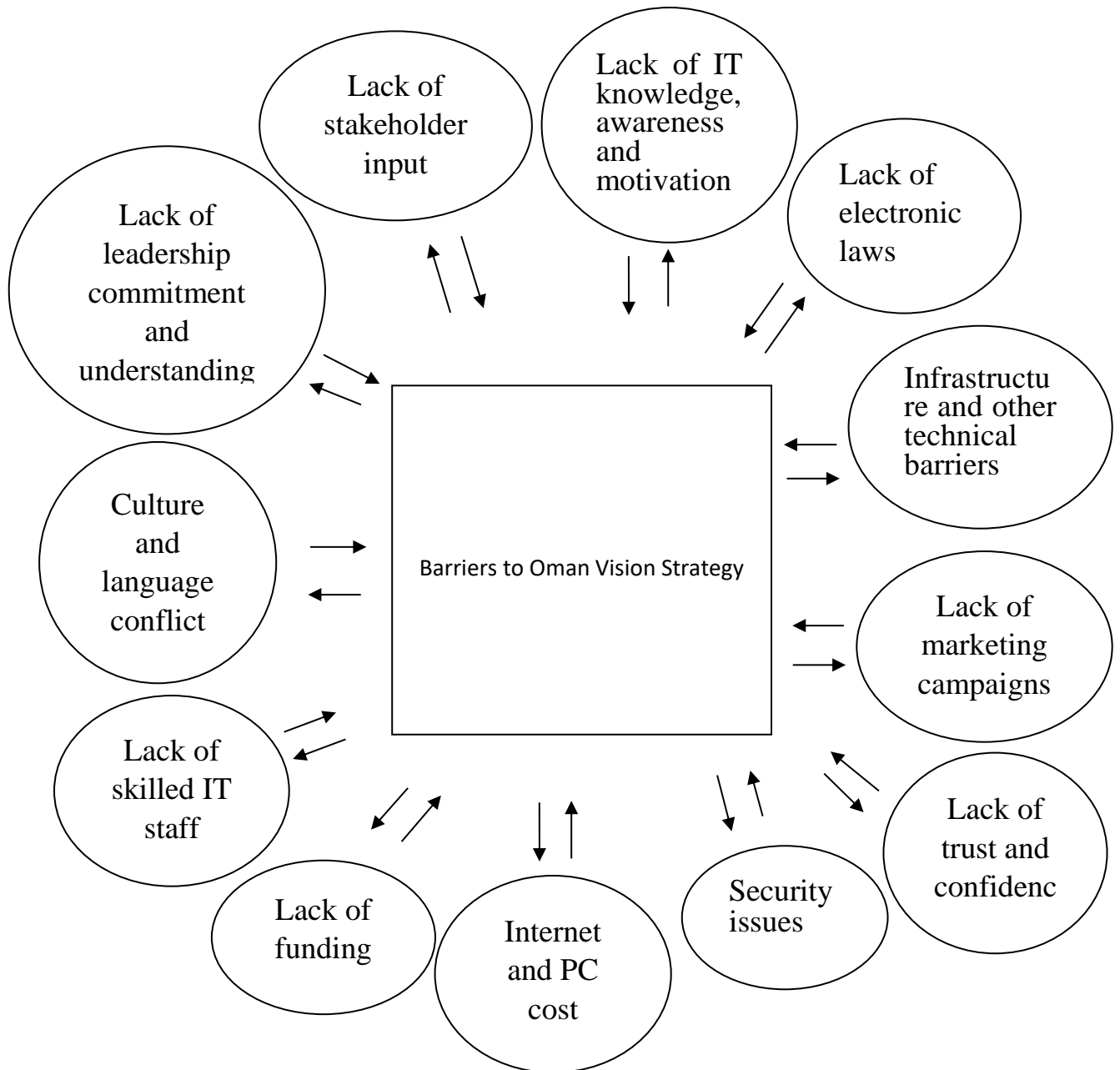
³⁴⁹ Ibid.

³⁵⁰ Qasim Al-Mamari, 'E-Government adoption and implementation in Oman: a government perspective' (DPhil thesis, Royal Melbourne Institute of Technology University 2013).

³⁵¹ Qasim Al-Mamari, Brian Corbitt and Victor Gekara, 'E-Government adoption and implementation in Oman: A government perspective' in Abrar Haider (ed), *Business Technologies in Contemporary Organizations: Adoption, Assimilation, and Institutionalization* (IGI Global 2015) 263.

³⁵² Ibid.

in the extent to which they impact implementation effectiveness. Of these, the first five are the severest.³⁵³ The 12 factors are set out in the following figure.



³⁵³ Nawal AL bulushi, Nabhan ALharasi and Ali AL Awfy, 'The reality of digital transformation in Omani institutions' [2020] (1) Journal of Information Studies and Technology 2; see also Hafedh AlShihi, 'Critical Factors in the Adoption and Diffusion of E-government Initiatives in Oman' (Dphil thesis, Victoria University 2006).

Figure (1): The factors affecting Oman Vision Strategy³⁵⁴

The Oman Vision identifies a number of factors that might help to solve the legal issues related to electronic commerce, for instance: electronic commerce law development, the national electronic payment gateway, and the information security management framework. The main goal of these initiatives is to afford further protection to the right to privacy and to give the consumer the right and opportunity to identify and correct errors in their personal details before completing online transactions (further discussion regarding these factors and their relation to privacy are set out in section 8.1). The Oman Vision also seeks to overcome the obstacles that stand in the way of effectively and robustly implementing electronic commerce in Oman. One of these is the lack of legal regulation in the electronic commerce sector.³⁵⁵

On the question of inadequate legislative provision, it should be noted that electronic commerce in Oman is still in the early stages of development. The main symptom of this is a persistent preference for face-to-face trade, and resistance to the use of electronic means of exchange on the part of buyers and sellers for various reasons.³⁵⁶

One of these reasons, according to one study on electronic commerce in Oman, is a lack of effective legislative provision for electronic commerce and data protection which directly affects consumers' decisions to use or not use electronic commerce services.³⁵⁷

In his study of electronic commerce in Oman, Tubi also identifies this as a factor that

³⁵⁴ In 2003 the Government of Oman presented the country's digital strategy (Oman Vision) to promote electronic services and the country as a site ideally suited to host new, state-of-the-art initiatives.

³⁵⁵ 'Oman Vision 2040' (2040.om, 2020) <<https://www.2040.om/en/>> accessed 19 November 2020.

³⁵⁶ Anwaar Al-Abri and Jitendra Pandey, 'Impact of "E-Commerce Business and Boom Of Online Market" On Retailers In Oman' [2020] Journal of Student Research 1.

³⁵⁷ Khamis Al-Gharbi, Abdulwahed Khalfan and Ahmed Al-Kindi, 'Problems of Electronic Commerce applications in a developing country: A descriptive case study of the banking industry of Oman' [2006] Computing and Informatics 1.

hinders the growth of electronic commerce services.³⁵⁸ He also identifies areas of ambiguity in the legislative field, particularly in relation to electronic commerce digital signatures. As a remedy, he stresses the need for legislation appropriate to meeting the needs of electronic commerce in Oman.³⁵⁹ Tubi compares the level of development of electronic within various Gulf states in terms of the following issues: electronic signatures, recognition of electronic contracts, email, shrink wrap contracts,³⁶⁰ click wrap³⁶¹ contracts, receipts, intermediary service providers, electronic identity, technical challenges, and related matters. His findings are that most of the GCC countries suffer from a lack of clear regulations and laws that proscribe specific remedies when violations occur.³⁶² In another Oman case study, O’Connell begins from the observation that most Gulf have codified and normalized laws for electronic transactions; in the case of Oman, this is law No. (69/2008). He notes, however, that responsibility for consumer data protection lies with the telecommunication service providers and legislators had failed to take this into account.³⁶³ The result is a body of national law that fails to protect the private data of consumers in electronic commerce contexts and, as a

³⁵⁸ Abdulrauf ALTubi, ‘Electronic commerce regulations in the Sultanate of Oman: a critical examination relating to the e-contract and e-signature’ (DPhil thesis, International Islamic University Malaysia 2008).

³⁵⁹ *Ibid.*

³⁶⁰ ‘Shrink Wraps are included in the package with the purchased product, usually software, which the user finds out about and assents to after opening a plastic wrapping or a shrink wrap’. For more information, see Nancy Kim, ‘Clicking and Cringing’ (2007) 86(1) Oregon Law Review 799.

³⁶¹ ‘Clickwrap agreement is electronically transmitted and requires clicking on a button indicating assent prior to downloading software or accessing a website’ for more information, see Nancy Kim, ‘Clicking and Cringing (2007) 86(1) Oregon Law 799.

³⁶² Abdulrahman Alajaji, ‘An evaluation of e-commerce legislation in GCC states: lessons and principles from the international best practices (EU, UK, UNCITRAL)’ (Dphil thesis, Lancaster University 2016).

³⁶³ Nick O’Connell, ‘Data Protection and Privacy Issues in the Middle East’ (*Tamimi*, February 2012) <<https://www.tamimi.com/law-update-articles/data-protection-and-privacy-issues-in-the-middle-east/>> accessed 17 August 2021.

consequence of this, citizens are unwilling to deal online because of rational and well-founded fears of fraud and theft.³⁶⁴

Naqvi and Al-Shihi stress the impact of the security of online transactions on the implementation of electronic commerce services in Oman. They add that, in light of other factors such as uncertainty concerning the legal and regulatory frameworks for selling and buying over the internet, decision makers and IT experts should respond by prioritizing security and education: firstly, the security of online payment systems should be significantly enhanced; and, secondly, training should be provided for citizens to reassure citizens and tutor them in the nature and conduct of online transactions.³⁶⁵

The additional factors that affect electronic commerce in Oman are awareness, ICT infrastructure, and cultural barriers. The adoption of electronic commerce services in Oman faces many challenges. It was previously identified that security and inadequate legislative provision are among two of these that are particularly daunting. In recent years, technical and legal issues have come to be considered the main obstacles for the electronic commerce sector.³⁶⁶ Another important issue is consumer protection, which may be promoted by enacting electronic consumer protection laws. In fact, legislators in Oman have recently promulgated a law³⁶⁷ for consumer protection. However, they failed to take into consideration the privacy and security needs of consumers that are

³⁶⁴ Rakesh Belwal, Rahima Al Shibli and Shweta Belwal, 'Consumer protection and electronic commerce in the Sultanate of Oman' (2020) 19(1) *Journal of Information, Communication and Ethics in Society* 38.

³⁶⁵ Syed Naqvi and Hafedh Al-Shihi, 'Factors Affecting M-commerce Adoption in Oman using Technology Acceptance Modeling Approach' (2014) 3(4) *TEM Journal* 315.

³⁶⁶ Zamzam Alamki, 'The Influence of Culture on the Successful Implementation of ICT Projects in Omani E-government' (DPhil thesis, Trinity College Dublin 2018). See also: Mekhmonov Sultonali and Temirkhanova Jurayevna, 'Actual issues of electronic commerce development in the republic of Uzbekistan' (2020) 3(1) *International Journal of Financial Management and Economics* 39.

³⁶⁷ The Omani Consumer Protection Law 2014.

specific to electronic commerce contexts. In other words, the nature of electronic commerce transactions is, to some extent, *sui generis* and a general law will fail to address the security risks such transactions pose to consumers. Clearly, legislators in Oman need to educate themselves about electronic commerce and revisit the issue.³⁶⁸

Clearly, electronic consumer protection laws are important because consumers' rights must be adequately protected in cyberspace.³⁶⁹ However, according to a study of electronic services adoption in Oman, awareness is a factor that significantly impacts the development of electronic commerce applications.³⁷⁰ Another study argues that, while Oman adequate platforms to support electronic commerce, companies fail to appreciate the importance of electronic commerce³⁷¹ (for more details see chapter 7). A proper implementation of an electronic commerce strategy will have to involve taking steps to increase consumer confidence, establishing an adequate payment system, and improving internet and web security.³⁷²

It follows from the above discussion that privacy concerns determine whether or not Omani consumers will be willing to shop online, and this is precisely the nub of the first research sub-question. This will be addressed in full in section 7.2 (Findings) which the findings of a field study conducted for the purposes of the research. This study examines why privacy concerns are a barrier to online shopping for Omani consumers

³⁶⁸ Nicoleta Andreea, 'Consumer protection in electronic commerce' (2016) 9(1) *Economic Sciences* 301.

³⁶⁹ Rakesh Belwal, Rahima Al Shibli and Shweta Belwal, 'Consumer protection and electronic commerce in the Sultanate of Oman' (2020) 19(1) *Journal of Information, Communication and Ethics in Society* 38.

³⁷⁰ Ahmad ALShatat, 'Factors affecting the adoption and usage of online services in Oman' (2017) 22(S7) *Journal of Internet Banking and Commerce* 1.

³⁷¹ Zamzam Alamki, 'The Influence of Culture on the Successful Implementation of ICT Projects in Omani E-government' (DPhil thesis, Trinity College Dublin 2018).

³⁷² Matea Matic and Katija Vojvodic, 'Customer-Perceived Insecurity of Online Shopping Environment' (2014) 4(1) *International Review of Management and Marketing* 59.

and seeks to identify the factors that prevent them from surrendering personal information in electronic commerce contexts. The Oman Vision does not consider privacy as a factor holding back electronic commerce; however, this is at variance with the findings of the research literature. Furthermore, it is obvious from the above figure (to be discussed in section “Findings from the Oman Context” 7.2) that the privacy factor determines the quality and robustness of electronic commerce implementation in Oman and anxiety about privacy dissuades Omani consumers from shopping online. Alleviating these anxieties and winning consumer trust by regulating consumer-business relations are necessary conditions for the success of the electronic commerce sector. The role of legislators here is to clarify by statute the duty of care of businesses towards consumers in terms of ensuring that the privacy of their personal data is not violated. This will be discussed in greater depth in section (Privacy and electronic commerce in Oman 4.3)

In conclusion, this section has chronicled the current state of affairs regarding the implementation of electronic commerce in Oman. Additionally, it has underscored that alleviating consumer anxiety about privacy by putting in place adequate security measures is key to successfully encouraging Omani consumers to shop online. The following section will document the current legislative framework for regulating privacy issues in Oman and how the current laws in Oman address the right to privacy.

4.3 Electronic Commerce Statistics in Oman and the Gulf Cooperation Council

(GCC):

The status of electronic commerce in Oman when compared with its neighbours is variable since some GCC states boast highly successful electronic commerce sectors when measured in global terms. These are the United Arab Emirates, Saudi Arabia, Qatar, Bahrain and Kuwait. By comparison, Oman has the lowest performing sector in

the region.³⁷³ According to one analysis (2016-2022) Oman accounts for a mere 1% of the total electronic commerce retail sales within the GCC. By contrast, in 2020 the United Arab Emirates and Saudi Arabia accounted for 10%³⁷⁴ and 6%³⁷⁵ respectively of total electronic commerce retail sales within the GCC. In the same year, Qatar performed better still by accounting for 37% of total sales in the region.³⁷⁶ There are a number of factors driving this growth: increasing numbers of internet users and social media websites; easy and secure payment access to the gateways; technological advances in delivery systems; and the availability of a wide inventory of competitively priced products. Recently, retailers have been looking to grow their online business to take advantage of geographically extended internet coverage and to recoup high rental costs.³⁷⁷ However, the situation in Oman, Bahrain and Kuwait requires further development of their electronic commerce sectors by encouraging investment on the part of both local and foreign companies. Moreover, laws must be drafted and enacted to protect both companies and consumers when trading online.

The following chart shows the percentage of total electronic commerce sales by GCC countries in 2022:

³⁷³ Anwaar Al-Abri and Jitendra Pandey, 'Impact of "E-Commerce Business and Boom Of Online Market" On Retailers In Oman' [2020] Journal of Student Research 1.

³⁷⁴ 'United Arab Emirates - Country Commercial Guide' (*International Trade Administration*, 2022) <<https://www.trade.gov/country-commercial-guides/united-arab-emirates-ecommerce> > accessed 18 March 2023.

³⁷⁵ 'Saudi Arabia - Country Commercial Guide' (*International Trade Administration*, 2022) <<https://www.trade.gov/country-commercial-guides/saudi-arabia-ecommerce> > accessed 18 March 2023.

³⁷⁶ 'Qatar E-Commerce Opportunities' (*International Trade Administration*, 2022) <<https://www.trade.gov/market-intelligence/qatar-e-commerce-opportunities>> accessed 18 March 2023.

³⁷⁷ Omar Saeed and others, 'An E-Commerce Control Unit for Addressing Online Transactions in Developing Countries: Saudi Arabia—Case Study' (2022) 10 IEEE ACCESS 64283.

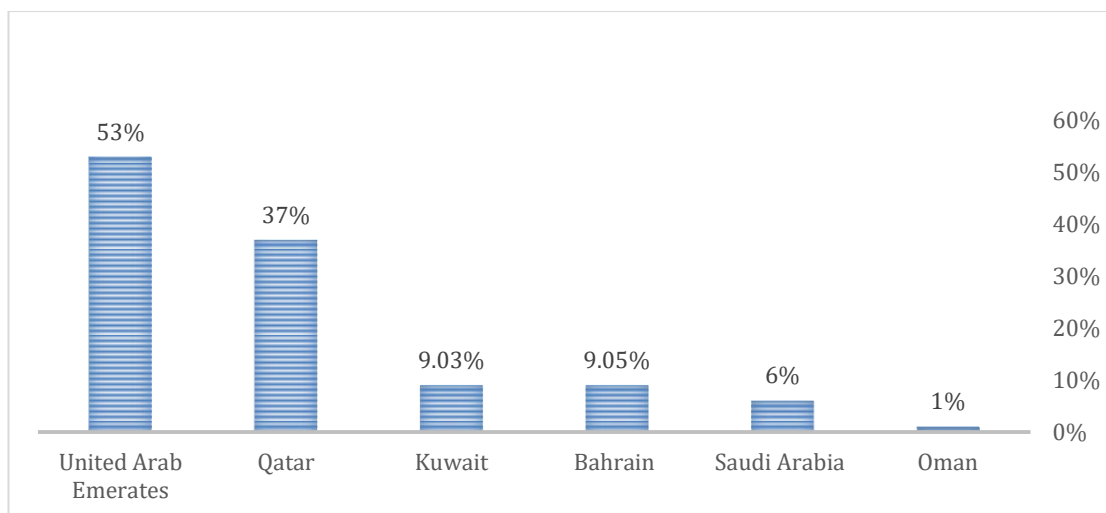


Figure (2) : The percentage of total electronic commerce sales by country within the GCC in 2022.

4.4 Privacy and Electronic Commerce in Oman

This section examines how the current laws in Oman protect privacy by enacting laws that penalize the breach of personal information. It has been argued previously principally in sub-sections 2.14.2 (barriers to electronic commerce), 3.3 (Relationship between information privacy and personal data) and 3.6 (sources of threats) the privacy issue is one of the main factors that hinder robust implementation of electronic commerce in Oman. Omani respondents, as discussed in chapter 4 (electronic commerce in Oman), emphasize the importance of laws that protect individuals' right to privacy. In light of this, this chapter will document the laws that currently govern electronic commerce transactions in Oman and protect individuals' right to privacy in online contexts.

Omani scholars agree on the need for governance of the electronic commerce sector, especially in the area of privacy as will be discussed in section 4.4 (An overview of relevant laws in Oman) to alleviate the consumer fears about shopping online. For this

reason, the legislative record on electronic commerce and privacy in Oman will be surveyed and discussed in the next sections. The international legislative record is covered and discussed in chapter 2.

4.5 An overview of relevant laws in Oman

It is useful to note that Oman follows the legal system of civil law - the codification system³⁷⁸ - in which all legal rules applied in the courts are codified. This means that there is no place for precedent in the Omani legal system, and there is no opportunity to apply common law because the courts are not bound by its previous decisions or even those issued by a higher court.³⁷⁹ Consequently, legal protections of information or data privacy should be codified in written laws in a way that is consistent with the fact that the right to privacy is a constitutional right in Oman.³⁸⁰

Oman is a member of several international and regional organizations that affirm the right to privacy as a human right. As a member of the United Nations, it fully embraces the Universal Declaration of Human Rights of 1948. In addition, as a member of the League of Arab States, it adopted the Arab Charter for Human Rights of 2004,³⁸¹ and as a member of the Organization of Islamic Cooperation,³⁸² it accepts the Cairo Declaration on Human Rights. Oman therefore recognizes the individual's right to

³⁷⁸ Saif Al-Rawahi, 'Criminal Liability in Dishonoring of a Cheque in the Criminal Justice System of Oman' (2020) (12)2 International Journal of Innovation, Creativity and Change 650.

³⁷⁹ Rashid Al Junaibi, 'Comparative Study Between the Omani and the British Legal Systems in Terms of Judicial Independence and Separation of Powers' (2020) 6(1) European Journal of Interdisciplinary Studies 59.

³⁸⁰ Omani Constitution (6/2021).

³⁸¹ Arab Charter on Human Rights 2004.

³⁸² The Organisation of Islamic Cooperation (OIC) is the second largest international organization after the United Nations with a membership of 57 states spread over four continents. It is the collective voice of the Muslim world. It endeavours to safeguard and protect the interests of the Muslim world in the spirit of promoting international peace and harmony among the various peoples of the world.

privacy as a human right as discussed in chapter 3.1.1 and 3.2 (Notions of privacy). To assess the extent to which information privacy is protected requires an examination of the ways in which Omani legislation regulates the processing of personal information, especially in the context of Internet-mediated commercial transactions.

As noted above, the right to privacy is a constitutional right guaranteed by the 1996 Constitution of Oman, which affirms physical integrity as provided for in articles 26,³⁸³ 27³⁸⁴ and 30³⁸⁵. In terms of agencies that enforce rights, Oman has a National Human Rights Centre which is responsible for the support and guarantee of human rights, including privacy rights.³⁸⁶ The aim of the Centre is to promote respect for the Universal Declaration of Human Rights and bilateral agreements. It also aims to improve the quality of Omani life, guarantee basic freedoms and human rights, and promote democracy and cultural and political pluralism.³⁸⁷ However, in the statute books there is no text that directly governs the protection of personal data despite

³⁸³ Article 26: It is not permissible to conduct any medical or scientific experiment on any human being without his or her free consent.

³⁸⁴ Article 27: Residences are inviolable. It is not permissible to enter them without the permission of their residents, except in the cases specified by the Law and in the manner stipulated therein.

³⁸⁵ Article 30: The freedom of correspondence by post, telegraph, telephone conversations, and other means of communication is protected and its confidentiality is guaranteed. It is not permissible to monitor, search, disclose the confidentiality of, delay, or confiscate the same, except in cases specified by the Law and in accordance with the procedures stated therein.

³⁸⁶ The Omani Human Rights Commission (OHRC) was established by Royal Decree No.124/2008 as an independent national entity to disseminate the culture of human rights among all segments of society and to protect human rights in accordance with national and international laws. The United Nations considers the national human rights institutions as an active partner in promoting and monitoring the effective implementation of international human rights standards at the national level. <<https://www.ohrc.om/english/>> accessed on 9 November 2020.

³⁸⁷ Ibid

awareness of the importance of the issue. A draft law has been presented before the Omani Parliament (Majlis al Shura) but it remains to be ratified.³⁸⁸

Concerning the protection of information privacy in electronic commerce activities, electronic commerce is still in its early stages in Oman.³⁸⁹ This can be attributed to various factors³⁹⁰ (see chapter 4 “Electronic Commerce in Oman”), in particular the inadequacy of the legal environment governing electronic commerce activities.³⁹¹

Whilst there have been Oman efforts to craft laws in relation to electronic commerce transactions, to date only one has been enacted in 2008 and this contains provisions relating to data protection. Oman’s Electronic Transactions Law (ETL)³⁹² (69/2008) is largely based on the UNCITRAL Model Laws³⁹³ relating to electronic commerce and electronic signatures. However, the (69/2008) law goes beyond these to include specific provisions relating to data protection. It sets down important rules for fair information practices which businesses must follow when handling and processing personal details.

These rules are:

³⁸⁸ Oman News Agency (ONA), ‘Majlis A'shura Refers Personal Data Protection Draft Law to State Council’ (22 June 2020)

<<https://omannews.gov.om/NewsDescription/ArtMID/392/ArticleID/14975/Majlis-AShura-Refers-Personal-Data-%20%20%20%20%20Protection-Draft-Law-to-State-Council>> accessed 17 August 2021.

³⁸⁹ Anwaar Al-Abri and Jitendra Pandey, ‘Impact of “E-Commerce Business and Boom of Online Market” On Retailers in Oman’ [2020] Journal of Student Research 4.

³⁹⁰ Hamedh AlShihi, ‘Critical Factors in the Adoption and Diffusion of E-government Initiatives in Oman’ (Dphil thesis, Victoria University 2006).

³⁹¹ Rakesh Belwal, Rahima Al Shibli and Shweta Belwal, ‘Consumer protection and electronic commerce in the Sultanate of Oman’ (2020) 19(1) Journal of Information, Communication and Ethics in Society 38.

³⁹² This law applies to transactions between parties that have agreed to conduct their transactions electronically and includes rules for the processing of personal data as well as for obtaining, maintaining and disseminating such data.

³⁹³ This refers to the UNCITRAL Model Law on International Commercial Arbitration of 1985 with amendments adopted in 2006.

1. Article 43 concerning **Private Information and Consent of Stakeholders**.³⁹⁴

In general terms, the ETL protects personal data and forbids the storage and processing of it in the absence of its owners' explicit consent. However, the legislators unfortunately neglected to provide a legal definition of the terms personal data and electronic commerce. This shortcoming has the potential to make for vague and ambiguous implementations of this and other personal data protection articles of the ETL which, in turn, might undermine the trust and confidence of online service users.

Tovi argues that the combination of ambiguous or opaque legislation and the frequency of internet security threats makes consumers in the developing countries more concerned about the integrity of their personal information compared with their counterparts in the developed countries where privacy and electronic commerce are well regulated. This anxiety is one of the main reasons why the economies of developing countries continue to be at a disadvantage in leveraging new technologies.³⁹⁵ For this reason, legislators in Oman must clarify what the terms personal data and electronic commerce mean in both current and future laws.

Aside the issues of legal definition, Article 43 does recognize an important principle, namely the consent of the owners of personal data. This acknowledgment is a positive step because the consent principle is one of the most important pillars of privacy protection. Scholars emphasize that requiring websites to secure a user's

³⁹⁴ Article 43 of the Electronic Transactions Law stipulates that: "Any government body or authentication service provider may collect personal data directly from the concerned person or from others after his explicit approval, only for the purpose of issuing a certificate or keeping it or facilitating such issuing or keeping. It is not permitted to collect, process, or use such data for any other purpose without the explicit consent of the person from whom such data is collected."

³⁹⁵ Muli Tovi and Mutua Muthama, 'Addressing the challenges of data protection in developing countries' (2013) 1(2) European Journal of Computer Science and Information Technology 2.

consent before collecting and processing their personal data is important because consent mitigates privacy risks.³⁹⁶ Moreover, the principle of prior consent enhances transparency in online retail contexts.³⁹⁷ However, the ETL does allow exceptions to the general rule. It permits obtaining, disclosing, providing or processing personal data without obtaining the express consent its owners in the following specific cases:³⁹⁸ (a) if the data is necessary to prevent or discover a crime on request from the investigation authorities; (b) if disclosure of the data is required or authorized by any law or by a court decision; (c) if the data is necessary for the calculation or collection of any taxes or fees; and (d) if the processing is necessary for the protection of the person from whom data is collected.

This right is derived from the OECD's *Guidelines Governing the Protection of Privacy and Trans-Border Flows of Personal Data* of 1980. Article 7 of the guidelines stress the rights of data subjects in relation to collection of their personal information that is lawful, fair and, where appropriate, with their knowledge or consent.³⁹⁹ The collection of personal data will be fair and lawful when the data

³⁹⁶ Ramesh Raskar and others, 'Apps gone rogue: Maintaining personal privacy in an epidemic' (*Cornell University*, 19 March 2020) <<https://arxiv.org/abs/2003.08567>> accessed 15 September 2021.

³⁹⁷ Joel Reidenberg, 'Restoring Americans' Privacy in Electronic Commerce Symposium - The Legal and Policy Framework for Global Electronic Commerce: A Progress Report' (1999) 14 *Berkeley Technology Law Journal* 771.

³⁹⁸ Article 43 ETL 2008.

³⁹⁹ 'OECD Guidelines On The Protection Of Privacy And Transborder Flows Of Personal Data – OECD' (*Oecd.org*, 2021)

<<https://www.oecd.org/sti/ieconomy/oecdguidelinesontheProtectionofPrivacyandTransborderFlowsOfPersonalData.htm#part1>> accessed 17 August 2021.

subject expresses to the data controller their consent that their personal data be collected and processed in specified ways.⁴⁰⁰

2. Article (1) of the ETL sets down that the **certification service provider**⁴⁰¹ **shall take the necessary measures to ensure the confidentiality of personal data.**

The driver of this particular provision is legislators' desire to inculcate trust in electronic transactions such that, at the precise moment when personal data is to be handed over to others, the consumer will proceed with confidence.⁴⁰²

The legislation, however, pays insufficient attention to the liabilities of the electronic certification service provider.⁴⁰³ Certificates issued by such providers play an important role because they inspire trust in both consumers and businesses. Over time, the parties to transactions come to depend on them in determining the distribution of rights and liabilities.⁴⁰⁴ Given the importance of this role, the law stipulates that the certification service provider must take the necessary measures to ensure the confidentiality of personal data, but the term "necessary measures" remains vague and undefined.

Although the ETL codifies the right to access personal information stored by websites, Omani legislators neglected to consider whether consumers should have the right to modify or delete such information.

⁴⁰⁰ Viktoria Robertson, 'Excessive data collection: Privacy considerations and abuse of dominance in the era of big data' (2020) 57(1) Common Market Law Review 1.

⁴⁰¹ Article (1): a "certification service provider" is a person or public body who issues certificates or provides other services related to electronic signatures. See Oman Electronic Transactions Law (69/2008) Article One – Definitions.

⁴⁰² Yeolib Kim and Robert Peterson, 'A Meta-analysis of Online Trust Relationships in E-commerce' (2017) 38 Journal of Interactive Marketing 44.

⁴⁰³ George Dimitrov, *Liability of Certification Service Providers* (Vdm Verlag Dr Mueller 2008).

⁴⁰⁴ Iman Suleiman, 'Legal Aspects of the Electronic Commerce Contract' (Dphil thesis, Mansoura University 2006).

3. The ETL **guarantees the right of the data owner to object to the processing of their personal data and, therefore, the owner is not obliged to accept electronic documents containing this data.**
4. This is why Article 47⁴⁰⁵ of the ETL stipulates that a client has the right to object to the processing of their personal Data. Privacy protection must be improved in order to reach a practical application of this ETL provision.⁴⁰⁶ However, Omani legislators do not identify any agency responsible for enforcement, which is to say, the article lacks teeth. In contrast, article (4) of the new Egyptian data protection law No. (151/2020)⁴⁰⁷ and article (3) of the Tunisian data protection law No. (63/2004)⁴⁰⁸ have established a national authority that is competent in personal data affairs and has executive powers. These authorities play an important role inside their respective countries to protect personal data and play a similar role outside the country.⁴⁰⁹ They coordinate with national authorities in other countries to ensure that personal data protection laws are applied and enforced in an appropriate

⁴⁰⁵ Article 47 “The users of the personal data collected pursuant to Article (43) of this law, shall not be allowed to send electronic documents to the person from whom such data is collected if he explicitly refuses to accept them.”

⁴⁰⁶ Hussain Al Gafree, ‘Electronic Commerce Transaction Law Analysis in Oman’ (Conference on Information Security and Privacy Under Internet Law, Cairo, June 2008).

⁴⁰⁷ Article 4.1 Main regulator for data protection.

The DPC is empowered to oversee and enforce the Data Protection Law including, inter alia, issuance of required licences and authorisation and certification in accordance with the Data Protection Law.

⁴⁰⁸ Article 75 by virtue of this law, an Authority called "The National Authority for the Protection of Personal Data" is established, having legal personality and enjoying financial autonomy. Its headquarters are located in Tunis. The budget of the Authority is attached to the budget of the ministry in charge of human rights. The operating procedures of the Authority are set by decree.

⁴⁰⁹ Article 47 General Data Protection Regulation 2016.

way.⁴¹⁰ For example, Tunisian law stipulates that the National Authority for the Protection of Personal Data must be notified in writing before any personal data may be processed.⁴¹¹

5. The ETL **prohibits the processing of data whenever it causes harm.**

That is to say, it is not permissible to process personal data when this processing would cause harm to the people from whom the data is collected or impair their rights or freedoms. The reason for this is that the objective of collecting and processing data is to enable its owner to conduct their transactions electronically and not to harm them or undermine their freedoms.⁴¹²

Therefore, Article 48⁴¹³ prohibits the processing of personal data that might cause harm to persons. This raises questions about the term “harm”. For example, by which criteria is harm to be judged here? And is this harm material or moral? Bawden and Robinson describe the five considerations of a privacy breach: “There are five major considerations: each person is constituted by their information, so that informational privacy is fundamental, overlaying other privacy types; a breach of informational privacy is an aggression against personal identity and self-development, and hence protection of privacy should be based directly on the protection of human dignity; explicit protection for group privacy is as important as for individual privacy; digital technologies can both defend and damage privacy,

⁴¹⁰ Michael Rustad and Thomas Koenig, ‘Towards a global data privacy standard’ (2019) 71(2) Florida Law Review 365.

⁴¹¹ Article 7 Tunisia Data Protection Regulation 2004.

⁴¹² Milena Head, Yufei Yuan and Hamilton Ontario, ‘Privacy protection in electronic commerce—a theoretical framework’ (2001) 20(2) Human Systems Management 149.

⁴¹³ Article 48 stipulates: “Any person controlling personal data is not allowed to process these data if the processing will cause damage to persons from whom such data is collected or will prejudice their rights and freedoms.”

and can also change our understanding of it; information friction, anonymity, and obscurity are key concepts”.⁴¹⁴

In this regard, data protection and security measures are designed to thwart a unique threat in the electronic commerce sector.⁴¹⁵ Regulation in this area is not an easy task for legislators because privacy depends on several criteria, and may differ from country to country in terms of local culture, language, religion, or political system.⁴¹⁶ Moreover, the term “harm” (arising from data violation in an internet context) is slippery because it is difficult to pin down the precise link between cause and effect⁴¹⁷. When drafting articles of the law, legislators should prefer wording which is semantically transparent and explicit. Ideally, there should be no room for interpretation and ambiguity in order to inspire confidence and trust when shopping online.

It is in the interests of the Omani legislature to provide an adequate and appropriate level of protection for personal data that must be transferred outside Oman. In deciding the necessary and appropriate level of protection for data to be transferred outside of Oman, the nature of the data (its source, the country of destination, the purposes for which the data is to be processed) should be taken into account. In addition, due attention should be paid to: the applicable law in the destination

⁴¹⁴ Bawden David and Lyn Robinson, ‘Essentially made of information: concepts and implications of informational privacy’ (2019) 24(4) *Information Research: an international electronic journal* 1.

⁴¹⁵ Michael Rustad and Thomas Koenig, ‘Towards a global data privacy standard’ (2019) 71(2) *Florida Law Review* 365.

⁴¹⁶ Chao Li and Balaji Palanisamy, ‘Privacy in Internet of Things: From principles to technologies’ (2018) 6(1) *Institute of Electrical and Electronics Engineers* 489.

⁴¹⁷ Barbara Prainsack, Alena Buyx and Aisling McMahon, ‘Big data governance needs more collective responsibility: the role of harm mitigation in the governance of data use in medicine and beyond’ (2020) 28(1) *Medical Law Review* 155.

country; the international obligations of that state and any related system, behaviour or rules applied therein; and the security measures taken to secure such data in that state. Article 49 states this in the following terms: “When the personal data are supposed to be transferred outside Oman, regard shall be had to the security of such information, in particular the nature of the personal data; b) Source of information and data; c) Purpose for which the data are to be processed and duration of process; d) The country of destination where the data were transferred, its international obligation, and the law applicable; e) Any related rules applied in that country; f) The security measures taken to secure that data in that country.” The ETL sets down the punishment for any institution that violates the right to privacy, but does not specify the duties and conditions incumbent on that institution in the controlling and processing of personal information.

6. **Electronic messages, electronic signatures and electronic evidence**

This section discusses the legal regulation of electronic records and seeks to determine the legal conditions for the authentication of electronic writing, including its validity and probative value as evidence. In addition, this section discusses the basic conditions for the legitimacy of electronic signatures, as well as the mechanisms and data which are necessary to create an electronic signature. Furthermore, the reliability of electronic signatures and the protection they provide from imitation, forgery and preservation of documents, messages and electronic records will be explored. Lastly, there will be a discussion of the conditions required to establish the validity of electronic records and an assessment of whether this area is adequately addressed in Omani legislation and, if not, what the law should include.

Regarding electronic signatures, the ETL makes provision for electronic signature mechanisms in Oman, which means that several matters concerning formation of electronic transactions are subject to regulation. This legislation prompted, as mentioned in the Oman Vision, the launch of the National Digital Certification Centre in 2013, an affiliate of the Information Technology Authority (ITA), which is responsible for determining the requirements for issuing digital certificates and the conditions for handling electronic signatures as a class of personal information that needs protection from misuse.⁴¹⁸ A related issue is electronic writing (a digital proxy for legally required paper-based writing) and the extent of its authority as evidence which is addressed in Article 9 of the ETL: “Where the Law requires the writing of any document or record or transaction or information or statement or provides for consequences otherwise, then that requirement of writing is met by submission of any of the above in electronic form if the conditions provided for in the previous article are observed.”

The legislators set down the mandatory conditions for the acceptability of that writing in Article 8,⁴¹⁹ which relates to the mechanism of retention of any document

⁴¹⁸ 'Ministry Of Transport, Communications And Information Technology' (*Ita.gov.om*, 2013) <<https://ita.gov.om/ITAPortal/MediaCenter/NewsDetail.aspx?NID=552>> accessed 18 August 2021.

⁴¹⁹ Article 8 : “ (1) Where any law requires the retention of any document or record or information or data for any reason, then such retention shall be ascertained by retaining that document or record or information or data in electronic form if the following conditions are satisfied :

(a) The document or record or information or data are retained electronically in the form they were originated or sent or received or in a form capable of proving accurately that the document or record or information or data originated or sent or received in its original form.

(b) The document or record or information or data shall remain retained in a way to render it accessible, usable and retrievable for subsequent reference.

(c) The document or record or information or data shall be retained in a way to enable the identification of their origin and destination and the date and time when they were sent or received.”

or record or information or data since the means of retention of such electronic documents is what causes the beneficiary to retain them as evidence in the event of a dispute. This is considered as an argument against written documents. This means that the Omani legislators did not distinguish between informal and formal writing or between official and everyday documents. In addition, if electronic messages and electronic documents impact electronic transaction in different ways, then the legislators should clarify the nature of this difference and its ramifications. However, the Omani legislators chose not to do so and justified this decision on the grounds that inadequate infrastructure at that time could not process electronic transactions in official documents.

Moreover, where the law requires the provision of a message or record or document in its original form and provides otherwise for consequences, then the electronic message or record or document will be regarded as original if there exists a reliable means of accessing its content in a usable and comprehensible form and of verifying the integrity and origin of said content.⁴²⁰

The legislators give definitions for the terms signatory, signature originating tool and electronic signature. The last is defined in the following terms: “Signing an electronic message or transaction in the form of letters, digits, symbols, signs or otherwise, and having a unique and capable way of determining the character that allows the identification of the Signatory”⁴²¹. The signatory identification procedures are performed by service providers and are intended to verify the following: that an electronic message was issued by a particular person; the date

⁴²⁰ Article 10 of the Electronic Transaction Law 2008.

⁴²¹ Article 1: Definitions of Omani Electronic Transactions 2008.

and time when the message was sent; that there has been no subsequent alteration of the message's contents.

Regarding authentication procedures, the legislators stipulated two options.⁴²² In the case of the first, if a specific authentication procedure is agreed upon by the parties, then the authenticated record or document shall be treated as a protected electronic record. In the case of the second, there is no authentication procedure agreed upon by the parties and an authentication procedure is chosen and deemed acceptable according to the nature of the transaction. The following criteria are used to arrive at this choice: the knowledge and experience of the parties; the volume of similar transactions to which any or all of the parties is a party; the existence of alternative procedures; the cost of the alternative procedures; and the procedures deployed in similar transactions. This is in addition to the requirements set down by the legislators under Article 23 according to which an electronic signature shall be considered protected.⁴²³

7. Electronic Payments

The ETL does not specify any particular electronic payment system for online transactions. This issue is addressed in Article 5: “The competent authority shall determine the system of electronic payments after agreement with the Central Bank of Oman”. However, the decision to favour deference to external authorities over explicit prescription of a payment system in law was a mistake on the part of the legislators. The electronic commerce sector will not flourish unless the security and safety of electronic payments is guaranteed (see chapter 7 “Findings”). A

⁴²² This issue was resolved by Article 21 of the Electronic Transactions Law 2008.

⁴²³ Article 23 Electronic Transaction Law 2008.

centralized, secure and authoritative electronic payments system would be much more likely to inspire the confidence of consumers.

8. Electronic Messages

The Omani legislators define electronic messages in the following terms:

“Electronic information to be sent by electronic means whatever the method of its extraction at the location of receiving”.⁴²⁴ The legislators also discuss the attribution of such messages to their original senders in particular circumstances,⁴²⁵ for example: did the sender generate the message themselves, or was it sent by a proxy authorized by the sender; did the sender and receiver agree upon a message protocol or was a previous transaction between the sender and receiver used as a precedent. The legislation also explains in detail the various ways in which the time and place of dispatch and receipt are to be determined in law.⁴²⁶

⁴²⁴ Article 1 The Omani Electronic Transactions Law 2008.

⁴²⁵ Article 15 The Omani Electronic Transactions Law 2008.

⁴²⁶ Article 17 of the Omani Electronic Transactions Law number 2008, unless otherwise agreed between the originator and the addressee:

1. The dispatch of the electronic message occurs when it enters an information system outside the control of the originator or of the person who sent the electronic message on behalf of him.
2. The time of receipt of the electronic message is determined as follows:
 - (a) If the addressee has designated an information system for the purpose of receiving electronic messages, then receipt occurs at the time when the message enters the designated information system and if the message is sent to an information system the time of receipt will be the time when the message is retrieved by the addressee.
 - (b) If the addressee has not designated an information system, then receipt occurs when the message enters an information system of the addressee.
3. The electronic message is deemed to be dispatched at the place where the originator has its place of business and is deemed to be received at the place where the addressee has its place of business even if the place where the information system is located differ from the place where the message is presumed to be received.
4. If the originator or the addressee has more than one place of business, the place of business is that which has the closest relationship to the underlying transaction or, where there is no underlying transaction, the principal place of business and if the originator or the addressee does not have a place of business, then reference is to be made to its habitual residence.

However, the legislator did not discuss specific information that a message must carry, for example: the identity of the natural or legal person to whom the message is addressed; the nature of the transaction; and any specific conditions or exemptions in the messages that need consideration.

Furthermore, the legislators did not discuss the subject of unwanted messages “spam” sent by individuals or companies that are vexatious for the receiver and might warrant a legal penalty.

In fact, unsolicited messages or emails are considered by some to be a violation of privacy and can lead to cybercrime.⁴²⁷ Billah argues that it is an oversight that both the ETL and the cybercrime law No. (12/2011) do not consider the sending of such messages to be a criminal act punishable by law.⁴²⁸ Omani telecommunication companies exploit this legal lacuna by selling bundles of their customers’ contact details to commercial companies in order to inundate them with unsolicited advertising; there is even a tariff for bundles of various sizes. At the same time, the telecoms companies charge their customers to unsubscribe from SMS spam, which is not in line with regulatory requirements.⁴²⁹ This propaganda bombardment is a grim, daily reality for Omani citizens.

In fact, the terms and conditions set by the telecoms companies require their customers to send an SMS message to unsubscribe from a stream of unsolicited messages and levy a charge for doing so. This is tantamount to charging customers for the non-violation of one of their fundamental rights.

⁴²⁷ Benson Zenda, Ruthea Vorster and Adele Viega, ‘Protection of personal information: An experiment involving data value chains and the use of personal information for marketing purposes in South Africa’ (2020) 32(1) South African Computer Journal 113.

⁴²⁸ Muhammad Billah, ‘Sufficiency of Omani Laws to Suppress Cybercrimes in Light of the UN Comprehensive Study on Cybercrimes’ (2018) 32(2) Arab Law Quarterly 158.

⁴²⁹ Omantell, ‘servisecs guideline’ < Personal (omantel.om)> accessed on 28/5/2022

9. Electronic Consumer Protection

A new consumer protection law⁴³⁰ was promulgated in Oman in 2014. Unfortunately, however, the legislators made no provision for consumer protection in internet-mediated contexts. They did so on the grounds that the articles of the general law of consumer protection apply unproblematically to electronic commerce. However, this is not so. There are aspects of consumer protection in the context of electronic commerce that are quite specific and not covered by the provisions of the general law. Moreover, the right to privacy is protected in the Telecommunications Regulatory Act (30/2002). Article 30 addresses the protection of communications of any kind, including e-mail, and stresses their importance to the protection of privacy and other freedoms.⁴³¹ Article 90 of the Oman Procedure Law gave the Public Prosecutor in very limited cases the right to monitor and track citizens' communications if there is sufficient evidence of an offence or misdemeanour punishable by imprisonment for a period exceeding three months. Once granted, the permission is valid for a renewable period not exceeding 30 days.⁴³²

In addition, Article 276 of the Criminal penal law specifies a penalty of three months to two years imprisonment or a fine of 100-500 Rials (US\$260–520 at the

⁴³⁰ The Omani Consumer Protection Law Promulgated on November 2014 by Royal Decree (66/2014).

⁴³¹ Article 30: The freedom of correspondence by post, telegraph, telephone conversations, and other means of communication is protected and its confidentiality is guaranteed. It is not permissible to monitor, search, disclose the confidentiality of, delay, or confiscate the same, except in cases specified by the Law and in accordance with the procedures stated therein.

⁴³² Article 90 Oman Penal Procedure Law 1999.

time of writing) or both for violating an individual's privacy. The same penalty shall also apply if private information is disclosed.⁴³³

Other articles of the Cyber Crime Law stipulate special provisions for "crimes against freedom and honor," and stipulate penalties for actions that involve the "divulging of secrets", such as destroying or revealing a letter, telegram, or eavesdropping on a phone call.⁴³⁴

There is clearly a desire and will within the Omani government to protect the right to privacy, including the right to information privacy. However, the shortcomings documented here reveal an alarmingly high number of lacunae in the ETL as it currently stands.

4.6 Conclusion

In conclusion, Oman should be considered a developing country in the fields of electronic commerce and information and communications technology. This chapter has provided examples of the ways in which electronic commerce may be adopted and the various mechanism that might be used to encourage consumers and companies to accept this new way of conducting transactions. The literature review revealed that privacy is among the main factors that determines Omani consumers' willingness to shop online. Furthermore, this chapter shows the extent to which the legal environment is able to regulate matters related to privacy.

The literature review demonstrated that the proposed research questions in this research are meaningful and relevant. The second chapter examined the correlation between electronic commerce and privacy by showing that privacy issues are considered an

⁴³³ Article 90 penal law 2018.

⁴³⁴ Oman Penal Law 2018 - Chapter three: "On Crimes Against Freedom and Honor" Section Four: "On Divulging Secrets" Articles 579-581.

international factor of electronic commerce growth because of the international nature of the internet. The third chapter itemized the various types of privacy and revealed which of them fall within the scope of this research. In addition, it revealed the extent to which borders should be taken into consideration when determining if the right to privacy has been violated. In chapter four, the literature review revealed that information privacy is among the main factors that deter consumers from shopping online. This underscored the fact that, if this type of electronic commerce is to thrive, then consumers' anxieties about surrendering personal information will have to be alleviated. This can be achieved by regulating the personal data procedures that should be implemented by data controllers when processing personal data.

The literature review also revealed a dearth of empirical case studies devoted to electronic commerce and privacy in Oman. Moreover, it is clear from the literature review that there is a need to investigate the impact of privacy concerns on the development of electronic commerce. Furthermore, there is a need for research into the extent to which privacy concerns hamper the growth and development of electronic commerce. Consequently, the next chapter will discuss the kind of methods that will be employed to discover the extent to which the research literature, as it currently stands, accurately reflects the contemporary reality of the main electronic commerce stakeholders in Oman, which is to say, customers, companies, and governmental agencies.

Chapter 5 Research Methodology

5.1 Introduction

This chapter explores the choice of which will be implemented in the research study, by outlining a variety of philosophical paradigms that could be selected by information systems and social science researchers. The researcher will also examine various research methods in order to deduce the most suitable one for the data analysis and data collection along with the methods that the research will adopt to collect data from the main stakeholders in the electronic commerce transaction: consumers, businesses, and the government. Finally, the process that this research utilizes will be justified.

5.2 Philosophical Paradigms

This section will discuss the main philosophical models available for information systems (IS) research. A model is "a set of common assumptions or ways of thinking about some aspects of the world".⁴³⁵ In information systems research, there are two ideal types of model that correspond to particular epistemological positions. These are: the behavioural science paradigm (an issue understanding paradigm) which seeks to develop theories that explain and predict human or organizational behaviour; and the design science paradigm (a critical thinking paradigm) whose origins lay in design and the sciences of the artefact and which tries to extend the limits of human and organizational capacities by making new and inventive artefacts.⁴³⁶ It should be emphasized that the two types of model are not in conflict; rather they supplement one

⁴³⁵ Briony Oates, *Researching Information Systems and Computing* (London SAGE Publications, 2006) 228.

⁴³⁶ Husam Helmi Alharahsheh and Abraham Pius, 'A Review of key paradigms: positivism VS interpretivism' (2020) 2(3) *Global Academic Journal of Humanities and Social Sciences* 39.

other.⁴³⁷ In terms of the objectives of this research, the behavioural science model is the more applicable because the research focuses on "artificial" phenomena involving tools, techniques and materials designed and implemented by humans to achieve predetermined goals.⁴³⁸ The current research will not create a new artificial phenomenon but rather study currently existing phenomena and develop theories that explain or predict their organizational and human dimensions.

Behavioural science paradigms include positivist, interpretive and critical research paradigms,⁴³⁹ each of which will be discussed in the following subsections.

5.2.1 Positivism

Positivism is a "scientific method" which holds that facts about the world can only be derived from direct empirical observation.⁴⁴⁰ Moreover, understanding the relationships between these observed facts results in scientific laws which positivist approaches tend to leverage in order to achieve technical control.⁴⁴¹

Positivism is not a particularly appropriate method for the current research study because it is not concerned with the value and meaning of social phenomena for human social actors and does not make available any hermeneutic methods for the discovery of such value and meaning.

⁴³⁷ Alan Hevner and Others, 'Design Science in Information Systems Research' (2004) 28(1) Management Information Systems Research Center, University of Minnesota 75.

⁴³⁸ Husam Helmi Alharahsheh and Abraham Pius, 'A Review of key paradigms: positivism VS interpretivism' (2020) 2(3) Global Academic Journal of Humanities and Social Sciences 39

⁴³⁹ Ken Peffers and Others, 'Design Science Research Process: A Model for Producing and Presenting Information Systems Research' (2008) 32(4) MIS quarterly 725.

⁴⁴⁰ Husam Helmi Alharahsheh and Abraham Pius, 'A Review of key paradigms: positivism VS interpretivism' (2020) 2(3) Global Academic Journal of Humanities and Social Sciences 39.

⁴⁴¹ Debra Howcroft and Eileen M. Trauth, Handbook of Critical Information Systems Research Theory and Application Edward Elgar Publishing Limited 25.

5.2.2 Critical research

Critical research aims to arrive at a critical assessment of the social reality under study⁴⁴² which is produced and reproduced by human social actors. As a paradigm, it is underpinned by a belief that reality is composed of a series of historically shaped contingencies and is, therefore, amenable to change through the conscious actions of groups and individuals. This approach requires that researchers accept that knowledge is rooted in historical practice and that there are no predetermined, unchanging systems of observation and measurement that can definitively prove or disprove a theory.⁴⁴³ Critical research is not appropriate for this research because its practitioners aim to change the status quo whereas it is not an objective of this research to challenge or critique existing power structures.

5.2.3. Interpretivism

Interpretive methods of research start from the real position of our knowledge, including the domain of human actions, which is socially constructed by human actors.⁴⁴⁴ Interpretivist approaches to social research posit that human experience of the world is based on the social construction of reality.⁴⁴⁵ They focus on the actual, subjective experiences of participants of the phenomenon under study and explicitly acknowledge the influence on the research of the researchers' experience and knowledge.⁴⁴⁶

⁴⁴² Briony Oates, *Researching Information Systems and Computing* (London SAGE Publications.2006)

⁴⁴³ Wanda Orlikowski and Jack J. Baroudi, 'Studying Information Technology in Organizations: Research Approaches and Assumptions'(1991) 2(1) *Information Systems Research* 1

⁴⁴⁴ James Scotland, 'Exploring the philosophical underpinnings of research : Relating ontology and epistemology to the methodology and methods of the scientific, interpretive, and critical research paradigms' (2012) 5(9) *English language teaching* 9.

⁴⁴⁵ Barbara Dennis, 'Understanding participant experiences: Reflections of a novice research participant' (2014) 13(1) *International Journal of Qualitative Methods* 395.

⁴⁴⁶ Marianne Daher and others, 'Experience and meaning in qualitative research: A conceptual review and a methodological device proposal' (2017) 18(3) *Forum: Qualitative Social Research* 1.

Interpretivist approaches usually begin with a theory that is developed inductively over the course of the research to explain the phenomenon under study.⁴⁴⁷ This occurs by seeking to understand the importance and social meaning of human activities and interactions in specific social settings.⁴⁴⁸ Interpretivist approaches interrogate the ways in which individuals and groups perceive their social world⁴⁴⁹ and seeks to explain patterns of social behaviour. They seek to describe, translate, analyse and infer the social meaning of situations of human action and interaction.⁴⁵⁰

From a philosophical point of view, the social meaning of human action may be deciphered; however, this cannot be done exhaustively and definitively in view of the unbounded number of narratives that social actors can relate about their experiences. The interpretation of social meaning can be scrutinized through non-quantitative information, for example, words, pictures, sounds, and so forth.

The multifariousness of social reality in the social world is an important principle of interpretivism since “the interpretivist philosophy, where the constructivist paradigm fits, takes a different view of reality”.⁴⁵¹

Ontologically speaking, individuals play an important role in developing and constructing social reality by interpreting and attaching meaning to social phenomena.⁴⁵²

⁴⁴⁷ Paul Lichterman and others, ‘Theory and contrastive explanation in ethnography’ (2015) 44(4) *Sociological Methods and Research* 585.

⁴⁴⁸ Husam Alharahsheh and Abraham Pius, ‘A review of key paradigms: Positivism VS interpretivism’ (2020) 2(3) *Global Academic Journal of Humanities and Social Sciences* 39.

⁴⁴⁹ RyanGemma, ‘Introduction to positivism, interpretivism and critical theory’ (2018) 25(4) *Nurse Researcher* 8.

⁴⁵⁰ Malcolm Williams, ‘Interpretivism and generalisation’ (2000) 34(2) *Sociology* 209.

⁴⁵¹ Kirsty Williamson, ‘Research in constructivist frameworks using ethnographic techniques’ (2006) 55(1) *Library trends* 83, 84.

With this in mind, this research will seek to examine and analyse individuals' perspectives towards their social reality without any prior assumptions about the phenomena under study. However, to achieve the research aims, the researcher will be required to immerse himself within the social context under examination and use the idioms and sociolects of the participants for the purposes of description.⁴⁵³ In order to gain an in-depth insight into the current situation in Oman, the most fitting method is field study which immerses the researcher in the participants' social world and enables him to gain a comprehensive picture of their reality.⁴⁵⁴

5.3 Rationale for an interpretivist approach to the current research

The current research will adopt an interpretivist approach. The main objectives of the current research are to gauge the extent to which concerns about data protection and information privacy are an obstacle to the adoption of electronic commerce in Oman. However, it is impossible to understand the social actors who harbour these concerns, for example consumers in Oman, independently. This motivates an interpretivist approach which aims to interrogate and bring to light individuals' view of their social reality. Moreover, the current research seeks to examine additional obstacles to the take up of electronic commerce in Oman and measure their impact on privacy issues. To this end, the researcher will scrutinize in depth the interrelatedness of these factors and the study of relationships is a strength of interpretivist approaches. The implications of privacy regulation for the growth of electronic commerce in Oman will be examined by

⁴⁵² James Scotland, 'Exploring the philosophical underpinnings of research : Relating ontology and epistemology to the methodology and methods of the scientific, interpretive, and critical research paradigms' (2012) 5(9) English language teaching 9.

⁴⁵³ Wahyuni Dina, 'The research design maze: understanding paradigms, cases, methods and methodologie' (2012) 10(1) Journal of applied management accounting research 69.

⁴⁵⁴ Mary Lacity and Janson Marius, 'Understanding qualitative data: A framework of text analysis methods' (1994) 11(2) Journal of Management Information Systems 137.

exploring the current privacy laws to demonstrate their impact on the growth of electronic commerce. The main rationale for using an interpretivist approach in this research is that it can offer descriptions of the ways in which consumers in both public- and private-sector contexts perceive these laws in terms of their willingness to engage in electronic commerce in Oman. The following section will discuss the most appropriate research methods for the analysis stage.

5.4 Research methods

It is important that researchers reflect critically and explicitly on the philosophical commitments that they bring to their work for at least two reasons: (1) to ensure that they are meaningful in terms of the phenomena under study; and (2) to be aware of the ways in which they shape their perception of the phenomena under study. Moreover, the choice of research method will affect the way in which researchers approach and deal with data. It is necessary, therefore, to consider the suitability of methods in epistemological terms: will they yield the information necessary to understanding the phenomena under study? The word “method” can be understood in three different ways:

- the way in which we know things⁴⁵⁵
- the practical procedures employed when conducting research⁴⁵⁶
- “At a still-pretty-general level, it’s about strategic choices, like whether to do participant observation fieldwork, dig up information from libraries and archives, do a survey, or run an experiment”.⁴⁵⁷

⁴⁵⁵ Russell Bernard, *Research methods in anthropology: Qualitative and quantitative approaches* (Rowman and Littlefield 2017)

⁴⁵⁶ Naresh Malhotra, Daniel Nunan and David Birks, *Marketing research: an applied approach* (5th ed, Pearson Education Limited 2017)

⁴⁵⁷ Russell Bernard, *Research methods in anthropology : Qualitative and quantitative approaches* (Rowman and Littlefield 2017)

To examine the real situation in Oman, the researcher must adopt a methodology that is appropriate and adequate to addressing the research questions.

This study will explore the impact of privacy regulation on the growth of the electronic commerce sector in Oman. This will be achieved by examining the reasons why privacy is a barrier to implementing electronic commerce in Oman and by examining the effects of national privacy regulation.

It will also examine additional obstacles and their impact on consumer willingness to surrender personal information to online payment systems. To this end, research methods will be adopted that are adequate to addressing the main research question and sub-questions. There are a wide variety of available methods and from these the researcher must choose the tools that are appropriate to the discovery of human perceptions of a concrete space of social interaction.⁴⁵⁸

Since the present study deals with human behaviour that is varied, unlimited, unknown, unpredictable, and complex,⁴⁵⁹ and covers three groups of stakeholders in electronic commerce (consumers, corporations and government), it will employ a grounded theory approach because it is particularly suited to addressing the research question and sub questions. Prior to that, there is a need to account for the choice of this approach and the rejection of alternative approaches. The overriding reason for this preference is suitability and applicability to the goals and nature of research. The main research methods that will be discussed in this section are associated with interpretivism: case study, ethnography, action research, and grounded theory.

⁴⁵⁸ Cyril Tomkins and Roger Groves, 'The everyday accountant and researching his reality' (1983) 8(4) *Accounting, Organizations and Society* 361.

⁴⁵⁹ Jill de Villiers, 'The interface of language and theory of mind' (2007) 117(11) *Lingua* 1858.

5.4.1 Case Study

According to one definition, a case study is “an in-depth description and analysis of a bounded system”⁴⁶⁰ and this emphasizes that the defining feature of case study research is the object of study. In other words, a case study focuses on one particular thing and should be descriptive and heuristic in nature. In this research, the case study method will be avoided for well-known reasons: it lacks rigour and reliability and tends to result in generalizations that are not particularly credible.⁴⁶¹ This is because there are no prescribed and widely shared steps to follow when using the method and the researchers find it difficult to judge in advance its effectiveness or their aptitude for it.⁴⁶²

5.4.2 Ethnography

Ethnography is ‘a research method located in the practice of both sociologists and anthropologists, and which should be regarded as the product of a cocktail of methodologies that share the assumption that personal engagement with the subject is the key to understanding a particular culture or social setting’.⁴⁶³ The ethnographer endeavours to interpret and understand events and actions in the same terms as the study participants.⁴⁶⁴ In the case of this research, ethnography will be avoided because the researcher is not an employee of any of the electronic commerce enterprises in Oman and does not have access to any of them. Moreover, ethnography seeks to understand the culture and ways of thinking of a select group of people; this study, by contrast, is concerned with financial, technological and organizational factors.

⁴⁶⁰ John Gerring, ‘What Is a Case Study and What Is It Good for?’ (2004) 89 (2) *American Political Science Review* 341.

⁴⁶¹ Briony J Oates, *Researching Information Systems and Computing* (London SAGE Publications.2006) 228

⁴⁶² Heale, R. and Twycross, A, ‘What is a case study? Evidence-based nursing’ (2018) 21 (1) *Evidence-based nursing* 7.

⁴⁶³ Victor Jupp, *The Sage Dictionary of Social Research Methods* (Sage publications 2006) 101.

⁴⁶⁴ Briony J Oates, *Researching Information Systems and Computing* (London SAGE Publications.2006) 228

5.4.3 Action Research

Action research is “a form of collective, self-reflective inquiry that participants in social situation undertake to improve: (1) the rationality and justice of their own social education practices; (2) the participants’ understanding of these practices and the situation in which they carry out these practices”.⁴⁶⁵ This method is used only to gain a better understanding of the dilemmas that occur in daily life as part of the research package rather than documenting them for the purposes of critical assessment once the study results are known.⁴⁶⁶ Practical research requires the researcher to work with participants in teams or as part of the community and to immerse him or herself in the field research.⁴⁶⁷ Since the researcher is not working in any of the organizational or operational settings of electronic commerce in Oman, action research is not an appropriate or meaningful approach.

5.4.4 Grounded theory

Grounded theory has recently become a commonly used methodological approach in social science.⁴⁶⁸ It is focused on identifying emergent patterns in social behaviour and developing theory about them.⁴⁶⁹

This approach involves the researcher in the lives of study participants as well as in the interpretation of their various interactions.⁴⁷⁰ It pays close attention to symbolic

⁴⁶⁵ Herbert Altrichter and Others, ‘The concept of action research’ (2019) 9 (3) *The Learning Organization* 125.

⁴⁶⁶ *Ibid*

⁴⁶⁷ *Ibid*

⁴⁶⁸ Denscombe Martyn, *The Good Research Guide: For Small-Scale Social Research Projects* (McGraw-Hill Education (UK) 2017).

⁴⁶⁹ Suddaby Roy, ‘From the editors: What grounded theory is not’ (2006) 49(4) *Academy of Management Briarcliff Manor* 633.

⁴⁷⁰ Olivier Mesly, *Creating Models in Psychological Research* (springer 2015).

interactions in which meanings arise from actions and connections⁴⁷¹ and is, therefore, a qualitative research approach.⁴⁷² It seeks out qualitative data on often problematic or challenging behaviour, identifies patterns in the data, and generates theories about the behaviour.⁴⁷³

Grounded theory focuses on individuals' interpretation of events and the ways in which their actions are driven by their beliefs.⁴⁷⁴ This approach is particularly suited to the current study because it enables the representation and modelling of complex phenomena rooted social experience.⁴⁷⁵ Further reasons for adopting this theory will be presented in the next sub-section.

5.4.5 Rationale for adopting grounded theory

The ultimate purpose of research methods is to assist in the discovery of some aspect of social reality. In light of the current research goals and objectives, grounded theory is suitable for this for the following reasons:

- the object of the current study is a social reality that is constantly changing and is registered in and epistemologically accessed through the subjective experience of both the researcher and the study participants;

⁴⁷¹ Nicholas Ralph, Melanie Birks and Ysanne Chapman, 'The methodological dynamism of grounded theory' (2015) 14(4) *International Journal of Qualitative Methods* 1.

⁴⁷² Khaldoun Aldiabat and Carole Navenec, 'Philosophical roots of classical grounded theory: Its foundations in symbolic interactionism' (2011) 16(4) *The Qualitative Report* 1063.

⁴⁷³ Mohanad Halaweh, Christine Fidler and Steve McRobb, 'Integrating the grounded theory method and case study research methodology within is research: A possible 'road map' (Twenty Ninth International Conference on Information Systems, Paris, January 2008) <<https://core.ac.uk/download/pdf/301345702.pdf>> accessed 18 August 2021.

⁴⁷⁴ Strauss, Anselm and Corbin, Juliet, *Grounded theory methodology. Handbook of qualitative research* (Sage 1994).

⁴⁷⁵ Michael Jones and Irit Alony, 'Guiding the use of grounded theory in doctoral studies—An example from the Australian film industry' (2011) 6(2011) *International Journal of Doctoral Studies* 1.

- the data collection is qualitative and lends itself to inductive analysis for both the identification of emergent patterns and the generation of theory that describes the data;⁴⁷⁶
- the theory helps to efficiently generate insights into social fields with which the researcher is not familiar;⁴⁷⁷
- this study is mainly concerned with participants' behaviour and interactions and grounded theory provides a platform for theorizing and generating new ideas about these.⁴⁷⁸
- as Goulding and Saren argue, "A general, qualitative methodology is concerned with social processes and interactions".⁴⁷⁹

Grounded theory was developed as a new contextual approach. It generally appeals to those researchers who prefer to immerse themselves in data before making grand theoretical claims and who enjoy working with observations, imagery and natural language phenomena rather than numbers. This approach dictates that the data controls the nature of theoretical sampling and the researcher cannot define the sample prior to the research. The researcher must be prepared, if necessary, to take the research into different contexts, to different people and to different places if they fail to reach saturation early. Since this theory is based on analysis of the actual social experience, it

⁴⁷⁶ Suddaby Roy, 'From the editors: What grounded theory is not' (2006) 49(4) *Academy of Management Briarcliff Manor* 633.

⁴⁷⁷ Michael Jones and Irit Alony, 'Guiding the use of grounded theory in doctoral studies An example from the Australian film industry' (2011) 6(2011) *International Journal of Doctoral Studies* 1.

⁴⁷⁸ Christina Goulding and Michael Saren, 'Immersion, emergence and reflexivity: Grounded theory and aesthetic consumption' [2010] *International Journal of Culture, Tourism and Hospitality Research* 70.

⁴⁷⁹ *Ibid* 1.

enables the researcher to extrapolate patterns in these experiences for the purposes of analysis.⁴⁸⁰

A grounded theory approach is used here to discover the implications of privacy regulations for the growth of electronic commerce in Oman and to identify other factors that affect this field of economic activity. Moreover, the usefulness of grounded theory is demonstrated by several studies that have leveraged it productively; brief examples of these are given in what follows:

- Grounded theory is used by Shemi Alice in her doctoral thesis “Factors Affecting-commerce Adoption in Small and Medium Enterprises: An Interpretive Study of Botswana”.⁴⁸¹ This explores the factors affecting electronic commerce in Botswana by focussing on ICT and small and medium-sized businesses in Botswana.
- Mohanad Halaweh also makes use of the theory in his paper “Integration of Grounded Theory and Case Study: An Exemplary Application from E-Commerce Security Perception Research”.⁴⁸² The study justified the use of this methodology in order to develop theories and concepts that can be generalized and applied in electronic commerce security and privacy.
- In their paper “The Enablers and Disablers of E-Commerce: Consumers’ Perspectives”.⁴⁸³ Alqahtani et al deploy the theory to discover the factors that

⁴⁸⁰ Kathy Charmaz, ‘Constructionism and the grounded theory method’ in James A. Holstein and Jaber F. Gubrium (eds), *Handbook of constructionist research* (The Guilford Press 2008) 397.

⁴⁸¹ Shemi Alice, ‘Factors affecting e-commerce adoption in small and medium enterprises: An interpretive study of Botswana’ (Dphil thesis, University of Salford 2013).

⁴⁸² Halaweh Mohanad, ‘Integration of grounded theory and case study: An exemplary application from e-commerce security perception research’ (2012) 13(1) *Journal of Information Technology Theory and Application* 31.

⁴⁸³ Mohammed Alqahtani, Ali Al-Badi and Pam Mayhew, ‘The Enablers and Disablers of E-Commerce: Consumers’ Perspectives’ (2012) 54(1) *The Electronic Journal of Information Systems in Developing Countries* 1.

negatively affect consumers' willingness to transact online and identify other factors that impede the growth of electronic commerce in Saudi Arabia.

- In another Saudi Arabian case study,⁴⁸⁴ Altayyar et al leverage grounded theory to identify the enabling and disabling factors faced by the electronic commerce sector in developing countries.

These studies provide further justification for the use of grounded theory: they demonstrate its usefulness in enabling researchers to analyse and theorize the experience of social actors in order to pin down variables relevant to research questions.

In conclusion, grounded theory will be used as a research method in the current study, so it is essential to identify the most appropriate data collection method to grasp the social realities in Oman that are relevant to the research. Moreover, the choice of specific data collection methods depends on the selected research method.⁴⁸⁵ To this end, the following section discusses data collection methods that best suit the needs of the research.

⁴⁸⁴ Raed Altayyar and others, 'Challenges and obstacles facing SMEs in the adoption of e-commerce in developing countries; A case of Saudi Arabia' (2021) 39(4) *Studies of Applied Economics* 1.

⁴⁸⁵ Martyn Denscombe, *The Good Research Guide: For Small-Scale Social Research Projects* (McGraw-Hill Education (UK) 2017).

5.5 Data Collection Methods

To fulfil research aims, researchers must choose appropriate methods of data collection which are consistent with their research aims and objectives. In the case of this research, a data collection method must be chosen which is applicable and appropriate within the broader methodological context of grounded theory. Therefore, the researcher must determine which type of data is most suitable to use. Corbin and Strauss state that data in studies driven by grounded theory comes from a variety of sources and includes observations, interviews, and documents.⁴⁸⁶ Therefore, the following methods of data collection will be discussed: observation, interviews, and analysis of documents.

5.5.1 Observation

Observation is “the conscious noticing and detailed examination of participants’ behavior in a naturalistic setting”.⁴⁸⁷ This method requires the researcher to gather data by observation rather than verbal prompting via a questionnaire or interview. Observation involves time-consuming contemplation and documentation of behaviour within particular contexts and may fail to capture important phenomena if they do not occur during the period of observation. In the case of methods that involve verbal elicitation such as interviews and questionnaires, researchers have a clearer idea of the kind of data they are seeking to gather. Observation is better suited to capturing participants’ experience of certain phenomena which they express behaviourally rather than verbally and it can be used to gather both quantitative and qualitative data.⁴⁸⁸ The

⁴⁸⁶ Ibid.

⁴⁸⁷ Juanita Heigham and Robert A. Croker, *Action research. Qualitative research in applied linguistics: A practical introduction* (Palgrave Macmillan, London. 2009)165.

⁴⁸⁸ De Vignemont and Patrick Haggard, ‘Action observation and execution: What is shared?’ (2008) 3

(3-4) *Social Neuroscience* 421.

researcher will not use this method in the current research study because it is time-consuming and difficult to pursue without unlimited access to the relevant organizations.⁴⁸⁹ This method is unlikely to yield the level of information required to enrich the understanding of the phenomena under investigation.

5.5.2 Interviews

For Denscombe, “Interviews are an attractive proposition for project researchers at first glance, they do not seem to involve much technical paraphernalia and they draw on a skill that researchers already have: the ability to conduct a conversation”.⁴⁹⁰ There are three types of interviews: structured, semi-structured, and unstructured. The first type consists of “questions read out by the interviewer according to an interview schedule. Answers may be closed format”.⁴⁹¹ The second type, the semi-structured interview, is where the “researcher is prepared to be flexible in terms of the order in which the topics are considered, and, perhaps more significantly, to let the interviewee develop ideas and speak more widely on the issues raised by the researcher”.⁴⁹² The last type, the unstructured interview, is “a flexible format, usually based on a question guide but where the format remains the choice of the interviewer, who can allow the interview to ‘ramble’ in order to get insights into the attitudes of the interviewee. No closed format questions”.⁴⁹³

⁴⁸⁹ Roger Bakeman and Vicenc Quera, ‘Behavioral Observation’ [2012] APA Handbook of Research Methods in Psychology 207.

⁴⁹⁰ Martyn Denscombe, *The Good Research Guide: For Small-Scale Social Research Projects* (McGraw-Hill Education (UK) 2017) 172.

⁴⁹¹ Nicholas Walliman, *Research Methods: The Basics* (2nd edn, Routledge 2010) 99.

⁴⁹² Martyn Denscombe, *The Good Research Guide: For Small-Scale Social Research Projects* (McGraw-Hill Education (UK) 2017) 175.

⁴⁹³ Nicholas Walliman, *Research Methods: The Basics* (2nd edn, Routledge 2010) 99.

To allow the interviewees to express their views freely and to take into account the privacy issues, the interviews will be conducted on a one-to-one basis because this makes for a context where the researcher may steer the direction of the interview and also pause and interrogate a topic in greater depth.⁴⁹⁴ The interviews will be semi-structured for two reasons: (1) it allows for ad hoc exploration of topics that are key to the main research question (the implications of privacy regulation for the growth of electronic commerce in Oman); and (2) it allows the participants to express themselves freely on themes that seem to them to be relevant to the issues under discussion.

5.5.3 Analysis of Documents

Denscombe argues that: “Documents can be treated as a source of data in their own right in effect an alternative to questionnaires, interviews and observation”.⁴⁹⁵ This method recommends itself because the simplicity of access means that the data can be collected quickly and at low cost.⁴⁹⁶ Nevertheless, the disadvantages of using this method are that: some documents may not be credible or authoritative sources; and that documents may represent social reality in distorted ways.

In the current study, official documents from both public and private sectors will be used as a primary source of data to determine the influence of privacy regulation on the growth of electronic commerce and to assess the extent to which privacy concerns constitute an obstacle to implementation at adequately high levels. The reason behind this strategy is the important influence that the technical and non-technical literature review has on grounded theory as primary data.⁴⁹⁷

⁴⁹⁴ Martyn Denscombe, *The Good Research Guide: For Small-Scale Social Research Projects* (McGraw-Hill Education (UK) 2017) 175.

⁴⁹⁵ Ibid 216.

⁴⁹⁶ Glenn Bowen, ‘Document analysis as a qualitative research method’ (2009) 9(2) *Qualitative research journal* 27.

⁴⁹⁷ Juliet Corbin and Anselm Strauss, ‘Grounded theory research: Procedures, canons, and evaluative criteria’ (1990) 13(1) *Qualitative sociology* 3.

5.6 The research process

To achieve the research goals and objectives, the researcher will adopt an “Interpretive Straussian Grounded Theory” and collect data via semi-structured interviews. The next section will give the rationale for this in addition to documenting the ethical issues raised by the research, the interview protocol, and the responses of the research participants.

5.6.1 Rationale for research methods and methodology

The purpose of the current study is to examine privacy concerns and other factors influencing electronic commerce in Oman. This will be achieved by the researcher immersing himself in the language of the research participants. The researcher will, moreover, develop an interpretivist approach in order to investigate respondents’ attitudes to and perspectives on privacy issues and gauge the extent to which these inhibit them from shopping online. To this end, participants’ perception of the social spaces of online retail will be interrogated.⁴⁹⁸ This interpretivist approach is particularly appropriate because one of the main research questions is to determine the degree to which anxieties about privacy impede the growth of electronic commerce in Oman. This cannot be discovered without social science research⁴⁹⁹ which endeavours to discover the various ways in which individuals think and feel about privacy in particular online contexts. This approach will be explained in more detail in the next chapter which documents the analysis of the collected data.

⁴⁹⁸ Pierre Bourdieu, ‘The social space and the genesis of groups’ (1985) 14(6) *Theory and society* 723.

⁴⁹⁹ Wanda Orlikowski and Daniel Robey, ‘Information technology and the structuring of organizations’ (1991) 2(2) *Information systems research* 143.

5.7 Ethical issues

Individuals who participate in research are entitled to protection during and after research processes such as interviews.⁵⁰⁰ They are owed a duty of care and this involves respecting their privacy, ensuring that they cannot be identified by any party interested in the research, and protecting them from discomfort and harm.⁵⁰¹

Technological University Dublin requires that research projects go through a formal process of ethical approval. This is especially so in the case of research projects that propose to collect information from or about individuals. Accordingly, the researcher submitted a project proposal to the university's Ethics and Integrity Committee on 12 November 2018 (see Appendix 1).

The university's *Code of Conduct for Ensuring Excellence in Research Integrity*⁵⁰² sets down the rights that protect individuals who volunteer to participate in research, and these includes rights to safety, to withdraw from participation at any time, and to be fully apprised of the nature of a research project before agreeing to volunteer. The interviewees were informed about the nature of the research prior to interview and requested to grant their consent formally by signing a consent form (attached in Appendix 2). The researcher observed ethical guidelines throughout by respecting participants' privacy, ensuring that the interview data remained secure and confidential and protecting participants' identities through anonymization.

⁵⁰⁰ Fouka Georgia and Marianna Mantzorou, 'What are the major ethical issues in conducting research? Is there a conflict between the research ethics and the nature of nursing?' (2011) 5(1) Health science journal 3.

⁵⁰¹ Mark Israel and Iain Hay, *Research ethics for social scientists* (Sage 2006).

⁵⁰² Technological University Dublin, 'Code of Conduct for Ensuring Excellence in Research Integrity' <<https://www.dit.ie/media/documents/study/postgraduateresearch/selffundedprojects/TU%20Dublin%20Code%20of%20Conduct%20for%20Research.pdf>> accessed 18 August 2021.

5.8 Theoretical sampling

This research will use theoretical sampling throughout the process of data collection and analysis.⁵⁰³ This procedure will assist in finding a rational interpretation that bridges the gap between concepts and categories.⁵⁰⁴ Interviews are used to collect data from participants who have knowledge and experience of electronic commerce services. Generating theory (theoretical sampling) will be used to produce or generate sampling (purposive sampling) that can be considered reasonably representative of reality.⁵⁰⁵

Moreover, theoretical sampling will assist in analysing and interpreting the data based on its relation to the process of data collection which will enable the researcher to identify the next participants to interview while accumulating data.⁵⁰⁶

When the basic categories are identified, the saturation point is reached and theoretical sampling can cease. Saturation is the stage at which “no new information or themes are observed in the data”.⁵⁰⁷ At the point at which concepts begin to repeat the saturation of a category, the research can proceed to saturate another with confidence.

⁵⁰³ Helen Heath and Sarah Cowley, ‘Developing a grounded theory approach: a comparison of Glaser and Strauss’ (2004) 41(2) *International journal of nursing studies* 141.

⁵⁰⁴ Anselm Strauss and Juliet Corbin, ‘Grounded theory research: Procedures, canons, and evaluative criteria’ (1990) 13(1) *Qualitative sociology* 3.

⁵⁰⁵ *Ibid*

⁵⁰⁶ *Ibid*

⁵⁰⁷ Greg Guest, Arwen Bunce and Laura Johnson, ‘How many interviews are enough? An experiment with data saturation and variability’ (2006) 18(1) *Sage Publications Sage CA : Thousand Oaks, CA* 59.

5.8.1 Straussian approaches

Strauss and Corbin stress that the Straussian approach requires the researcher to play a key role during the course of the research.⁵⁰⁸

That is to say, the researcher needs to provide all textual records of those observations, paragraphs, and sentences in a conceptual text that describes a phenomenon.⁵⁰⁹ The Straussian method is particularly useful to novice researchers in anchoring and positioning themselves in an existing body of knowledge⁵¹⁰ and in identifying prior knowledge before embarking on fieldwork.⁵¹¹ In the Straussian approach, “the researcher does not begin a project with a preconceived theory in mind” but rather “he/she begins with an area of study and allows the theory to emerge from the data”.⁵¹² The following section will explore this in greater depth.

5.8.2 Procedures of the Straussian approach

The researcher chose a Straussian approach to collecting and analysing data. This section explains the typical coding process used in a Straussian approach. The process

⁵⁰⁸ Patrick E. W. Onions, ‘Grounded theory applications in reviewing knowledge management literature’ (Leeds Metropolitan University Innovation North Research Conference, Leeds, 24 May 2006)

<<https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.300.9376&rep=rep1&type=pdf>> accessed 18 August 2021.

⁵⁰⁹ Ibid.

⁵¹⁰ Timothy Ellis and Levy Yair, ‘A guide for novice researchers : Design and development research methods’ (Proceedings of Informing Science and IT Education Conference, USA, 2010)

<<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.170.2962&rep=rep1&type=pdf>> accessed 18 August 2021.

⁵¹¹ Juliet Corbin and Anselm Strauss, ‘Grounded theory research: Procedures, canons, and evaluative criteria’ (1990) 13(1) *Qualitative sociology* 3.

⁵¹² Juliet Corbin and Anselm Strauss, *Basics of qualitative research techniques* (Sage publications 1990) 12.

of coding is “the fundamental analytic process used by the researcher”.⁵¹³ Strauss and Corbin advocate coding by “micro-analysis which consists of analysing data word by word and coding the meaning found in the words or groups of words”.⁵¹⁴ The following sections will document the three types of coding used in Straussian approaches: open, axial, and selective.

5.8.2.1 Open coding

This is “the process of going through the data, generally line by line but sometimes word by word, and attaching initial codes to those chunks of data”.⁵¹⁵ The process initially begins with a “conceptualisation process” which analyses the document in terms of underlying essential expressions which offer some as yet incipient understanding.⁵¹⁶

The researcher should associate an event with other events or portions of the data, for instance, phrases and concepts, and then give it a descriptive label.⁵¹⁷

This proceeds by moving through the data segment by segment and the researcher is free to choose the size of the segments as units of discourse, for example textual phrases or entire paragraphs.⁵¹⁸ The conceptual classification of data segments can be performed by posing natural language questions about them, such as: What does it mean? What

⁵¹³ Juliet Corbin and Anselm Strauss, ‘Grounded theory research: Procedures, canons, and evaluative criteria’ (1990) 13(1) *Qualitative sociology* 3.

⁵¹⁴ Strauss Anselm and Corbin Juliet, ‘Grounded theory methodology’[2011] *Handbook of Qualitative Research* 14.

⁵¹⁵ Stefan Seidel and Cathy Urquhart, *On Emergence and Forcing in Information Systems Grounded Theory Studies: The Case of Strauss and Corbin* (Springer 2016).

⁵¹⁶ Margarete Sandelowski, ‘Sample size in qualitative research’ (1995) 18(2) *Research in nursing and health* 179.

⁵¹⁷ Strauss Anselm and Corbin Juliet, ‘Grounded theory research: Procedures, canons, and evaluative criteria’ (1990) 13(1) *Qualitative sociology* 3, 12.

⁵¹⁸ Juliet Corbin and Anselm Strauss, ‘Grounded theory research: Procedures, canons, and evaluative criteria’ (1990) 13(1) *Qualitative sociology* 3.

does it represent? At this level, a memo can be used to record analysis, ideas, explanations, problems, and guidance for additional data accumulation.⁵¹⁹ The next step is “categorising” during which concepts that emerged from analysis are compared and related to one another and grouped as instances of higher level categories.⁵²⁰ The process concludes by asking of each concept: what is it about? This facilitates the step of categorising the concepts. The categorisation and sub-categorisation of concepts is important because it generates a reduced and manageable array of abstractions for the purpose of generating theory.

5.8.2.2 Axial coding

Strauss and Corbin define this as the generation of “categories that are related to their subcategories, and these relationships are tested against data. Also, further development of categories takes place and one continues to look for indications of them”.⁵²¹ In the course of axial coding, the researcher responsibility seeks to develop categories by relating categories to one another and to their sub-categories.⁵²² The first phases of axial coding involve fitting interrelated elements of a phenomenon together within a model in terms of such things as: conditions that moderate or mediate the occurrence of the phenomenon; context which influences strategy or action; actions/interactions of social actors in response to the phenomenon; and consequences of actions. This model is intended to assist researchers to think about their data in more systematic and complex

⁵¹⁹ Ibid.

⁵²⁰ Stefan Seidel and Cathy Urquhart, ‘On Emergence and Forcing in Information Systems Grounded Theory Studies: The Case of Strauss and Corbin’, in Willcocks and others (eds), *Enacting Research Methods in Information Systems: Volume 1* (Palgrave Macmillan 2016).

⁵²¹ Juliet Corbin and Anselm Strauss, ‘Grounded theory research: Procedures, canons, and evaluative criteria’ (1990) 13(1) *Qualitative sociology* 3.

⁵²² Ibid.

ways and to explore with greater certainty the cause-and-effect implications of their emergent theories.

To perform axial coding in a genuinely meaningful way, it is important to concentrate on the following factors:⁵²³

- causal conditions which designate the events or variables leading to the occurrence of the phenomenon under investigation;
- the actions/interactions of social actors in response to the phenomenon and the contexts in which these take place;
- variables that shape actors' responses to the phenomenon for example, time, location, experience, social standing or class status, technological background, profession, history, and individual awareness;
- finally, the consequences of actions taken in response to the phenomenon.

5.8.2.3 Selective coding

Vollstedt and Rezat succinctly characterize selective coding in the following terms:

“The goal of selective coding is to integrate the different categories that have been developed, elaborated, and mutually related during axial coding into one cohesive theory. To reach this goal, the results from axial coding are further elaborated, integrated, and validated. Thus, selective coding is quite similar to axial coding, but it is carried out on a more abstract level”.⁵²⁴ In other words, selective coding involves plotting the relationships between the categories developed in the course of axial coding.

⁵²³ Maike Vollstedt and Sebastian Rezat, ‘An introduction to grounded theory with a special focus on axial coding and the coding paradigm’ in Gabriele Kaiser and Norma Presmeg (ed), *Compendium for early career researchers in mathematics education* (Springer open 2019) 81.

⁵²⁴ Ibid 89.

Moreover, the emerging categories may require further development and clarification. At the heart of selective coding, however, is identification of the core category: “the central phenomenon around which all the other categories are integrated”.⁵²⁵ Once the core category is identified, the researcher proceeds to relate all other categories to it. The resulting model of the phenomenon under investigation is then used to address the research questions.

To organize data for ease of retrieval and see all other aspects of the data analysis through to completion, it is useful to use a computer and specialist software to assist in formulating the analysis strategy. The following section will explore this in greater detail. The figure below illustrates the process of data analysis in grounded theory:

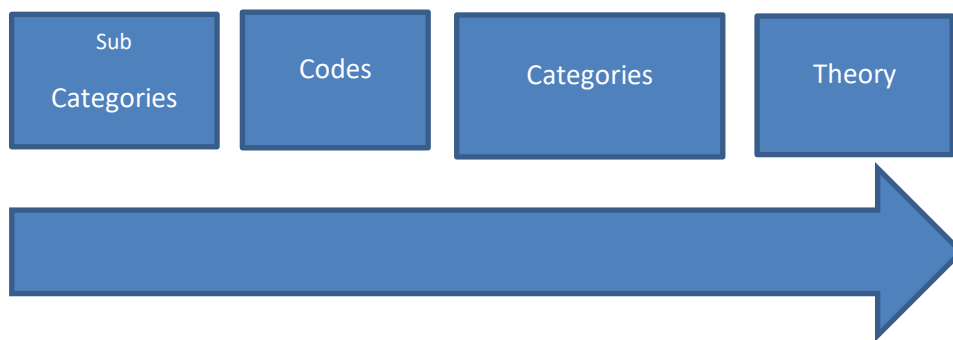


Figure (3): Grounded theory data analysis

5.9 Computer-Assisted Qualitative Data Analysis Software (CAQDAS)

NVivo is a suite of software tools that supports the interpretation of qualitative data and the formulation of data analysis strategies.⁵²⁶ It has been chosen to facilitate the process of data analysis in this research because it enables the development of accurate coding and the rapid building of nodes building rapidly. Moreover, NVivo “is capable of

⁵²⁵ Strauss Anselm and Corbin Juliet, *Basics of qualitative research: Grounded theory procedures and techniques* (Sage Publications 1990) 116.

⁵²⁶ Collins Zamawe, ‘The implication of using NVivo software in qualitative data analysis: Evidence-based reflections’ (2015) 27(1) Malawi Medical Journal 14.

accepting every research design”,⁵²⁷ and ensures simple, efficient, and productive coding which makes for accurate data recovery.⁵²⁸ It is useful to researchers across a wide range of fields in supporting highly accurate data design and analysis⁵²⁹ and, furthermore, it has a speechless function which helps researchers to gain a deep understanding of phenomena through a particular approach to analysis. NVivo has enabled the researcher to make a connection between ideas emerging from two or more sources.⁵³⁰ It also greatly facilitates data management with capacities for search and retrieval that, for example, make it simple to find a chunks of discourse and identify the participants who authored them.⁵³¹

In conclusion, the research will adopt a Straussian approach to the collection, interrogation and analysis of the interview data. The following chapter will document the practical application of the theory outlined in this chapter.

5.10 The Omani respondents

The researcher conducted interviews over two different periods of time: a first group was interviewed between July 2018 and July 2019; and a second group was interviewed between June and August 2019. There are three important lessons to draw from phase one: (1) the access problem was persistent and a special effort would be needed to overcome it; (2) the impact of privacy regulation on the development of electronic

⁵²⁷ Ibid 14.

⁵²⁸ Pat Bazeley and Kristi Jackson, *Qualitative data analysis with NVivo* (SAGE publications limited 2013).

⁵²⁹ Collins Zamawe, ‘The implication of using NVivo software in qualitative data analysis: Evidence-based reflections’ (2015) 27(1) Malawi Medical Journal 14.

⁵³⁰ Wasana Bandara and others, ‘Achieving rigor in literature reviews: Insights from qualitative data analysis and tool-support’ (2015) 37(1) Communications of the Association for Information Systems 8.

⁵³¹ Welsh Elaine, ‘Dealing with data: Using NVivo in the qualitative data analysis process’ (2002) 3(2) Forum: qualitative social research <<https://www.qualitative-research.net/index.php/fqs/article/view/865>> accessed 28 August 2021.

commerce is a multi-dimensional phenomenon the exploration of which would require a qualitative approach; and (3) the findings of phase one would underpin the further exploration of the issue in phase two. Phase two was the key phase of the current study. The main objective of this phase was to identify and explore other obstacles to the implementation of electronic commerce and their influence on consumers' willingness to provide personal information online. The results from the first phase informed and underpinned the organization of phase two.

13 interviews were conducted in Arabic and 7 in English in the case of non-Arabic speakers. They were recorded using a digital recorder and then transcribed into text. Upon arriving in Oman, the 20 participants were all contacted to confirm the location, date and time of the interviews. In advance of the interviews, the researcher presented an overview to all the interviewees of the subject and purpose of the current research, distributed to them a consent letter to confirm their willingness to participate which they all signed and returned.

The researcher will use the Oman vision for electronic commerce as a primary source. The vision lists a number of factors that must be taken into consideration in order to create an environment for electronic commerce activities in Oman and these are shown in the table below.

Internet penetration	Telecommunications infrastructure	IT and computer literacy	Lack of a legislative framework
Privacy concerns	Digital divide	Availability of IT professionals	Security of online transactions
Gender issues	Legal environment	Awareness and knowledge	Electronic commerce consumer protections
Confidence	Trust		

Table (3): Factors of electronic commerce in Oman:⁵³²

⁵³² Khamis Al-Gharbi and Rafi Ashrafi, 'Factors contribute to slow internet adoption in Omani private sector organizations' [2010] Communications of the IBIMA 1.

The researcher elected to use the Oman vision as a primary data source because it clearly sets down all the factors that impede the implementation of electronic commerce in Oman to an adequate level of quality. The Vision is useful as a guide to issues related to electronic commerce that are important to Omani consumers in public- and private-sector contexts.

Consequently, the Vision as a primary data source was the basis on which participants were selected for interview. Three main groups of stakeholders, from both the public and private sectors, were interviewed for this study: consumers, legal experts and company representatives. The questions put to the respondents varied depending on which stakeholder group they belonged to. The Oman Vision also sets down enabling actions which are noted below alongside the respondents who have the expertise to offer commentary on them. The purpose of the current study is to examine privacy impacts on the development of electronic commerce, with a particular focus on Oman's current laws. Each participant was chosen to be interviewed for a specific reason related to their role and knowledge, which is explained below:

- Regulation: There are factors associated with legislation that should be enacted to regulate electronic commerce activities. Because one of the main objectives of the current study is to explore the implications of privacy regulation for the growth of electronic commerce in Oman, it is essential to interview policymakers and legal specialists in the electronic commerce sector.
- Furthermore, the sample included individuals who are responsible for formulating and publishing regulations in the field of electronic commerce. For example, the researcher interviewed an ex-director of the legal department of the Telecommunication Regulatory Authority, a government authority attached to the Ministry of Commerce and Industry.

- National Electronic Payment Gateway: this initiative is designed to address safety and security concerns about electronic payments. Two experts from the Ministry of Commerce and Industry and the Telecommunication Regulatory Authority for the Oman Vision were interviewed to elicit their views on the current situation in Oman in terms of security and privacy issues.
- Six company representatives also were interviewed to solicit their perspectives on security concerns around electronic commerce, especially the extent to which anxieties about privacy affected consumers' willingness to surrender personal information to online payment systems.
- Electronic awareness: that is to say, the awareness and skills to which Omani companies have recourse. To explore this aspect, the researcher interviewed an expert from the Oman Air company and another from the private-sector Suhail Bhawan Automobiles Company to gain in-depth insights into the main factors faced by electronic commerce companies and the impacts of corporate and consumer awareness on the electronic commerce sector in Oman.
- Improving social development using IT: the Oman vision strategy covers issues related to e-government and the digital society. It aim to build an efficient infrastructure that mediates between government and the citizenry to provide better public services. Despite increased use of the Internet and a reasonably effective telecommunications infrastructure, Oman is a low-ranking country in terms of electronic commerce infrastructure and activity and this confirms a reluctance among Omani organizations to leverage internet technologies within their organizations. Among the main reasons they cite for this is that the internet does not greatly affect their services. This betrays high levels of ignorance of the positive effects of adopting such technologies, including profit growth. Consumer attitudes. This study

endeavours to assess the extent to which privacy concerns stand in the way of implementing electronic commerce, and the extent to which additional factors affect consumers' willingness to surrender personal information online. To this end, this study attempts to build a taxonomy of Omani consumers in Oman (see the table below) to explore their attitudes to using electronic commerce services in their day-to-day retail activities services.

The following table profiles the interviewees:

Interviewee	Gender	Age	Characteristics	Nationality
Respondent 1 (R1)	M	25	Engineer, EC company representative	Omani
Respondent 2 (R2)	M	48	General Manager Asset Management company representative	Omani
Respondent 3 (R3)	M	34	Company representative	Omani
Respondent 4 (R4)	M	44	Company representative	Omani
Respondent 5 (R5)	M	39	Company representative	Omani
Respondent 6 (R6)	M	54	Judge at the supreme court, legal expert	Omani
Respondent 7 (R7)	M	40	Legal expert working in the automotive industry in Oman	Pakistani
Respondent 8 (R8)	M	44	Former Director of the Information and Communications Technology Authority affiliated to the Ministry of Commerce and Industry	Omani
Respondent 9 (R9)	M	39	Employee, consumer	Omani
Respondent 10 (R10)	M	36	Investor in Oman, consumer	South Korean

Interviewee	Gender	Age	Characteristics	Nationality
Respondent 11 (R11)	M	19	Student, consumer	Omani
Respondent 12 (R12)	M	23	Young consumer	Omani
Respondent 13 (R13)	M	54	Retired consumer	Omani
Respondent 14 (R14)	M	46	Government employee, consumer	Omani
Respondent 15 (R15)	F	44	Retired consumer	Omani
Respondent 16 (R16)	F	39	Employee, consumer	Omani
Respondent 17 (R17)	F	40	Employee, consumer	Omani
Respondent 18 (R18)	F	36	Employee, consumer	Omani
Respondent 19 (R19)	M	19	Unemployed, consumer	Omani
Respondent 20 (R20)	M	45	Employee, consumer	Omani

Table (4): The Source of Data from Oman

It is clear from the above table that this study endeavours to collect data from a variety of sources with different perspectives. This is largely driven by the decision to use a theoretical sampling approach to the data collection.

It should be noted that the sampling size in this study is small when compared to the large sample sizes that are typical in quantitative research. This can be justified on the grounds that, unlike quantitative studies that seek to generalize their findings, this study

is underpinned and informed by a grounded theory approach and seeks to interpret and gain an in-depth insight into the particular social reality under examination rather than generalize its findings.

5.11 Conclusion

This chapter documents the research methods and data collection tools used in this study. In summary, since the aim of the current research is to investigate the implications of privacy regulations for electronic commerce growth in Oman, the research explores this phenomenon and related events by interrogating relevant social actors and their perceptions of the phenomenon. To accomplish that aim, a grounded theory strategy will be employed. More specifically, an interpretivist methodology involving the collection of data from semi-structured interviews and documents will be adopted to explain the influence of privacy regulations on electronic commerce growth in Oman.

The following chapter aims will document the analysis of the data collected during the course of practical fieldwork.

Chapter 6 Data Analysis

6.1 Introduction

This chapter sets out the results of the analysis of the collected data from three groups of stakeholders (consumers, legal experts and company representatives). Following a grounded theory approach, the research derived a series of codes and categories from the interview data as described in (section 5.10.2). This chapter also sets down and draws a distinction between the initial assumptions of grounded theory and the concepts and categories that emerged from the data collected from the respondents.

6.2 Data analysis

As stated earlier, the Straussian method prescribes techniques and procedures that must be used in order to generate theory and these were followed here. This chapter will document the resulting findings concerning the influence of privacy regulations on the growth of electronic commerce growth in Oman from three perspectives: consumers, businesses, and government. In addition, the researcher will assess the effectiveness and usefulness of grounded theory in the empirical context of Oman. Firstly, two sets of interviews were conducted: 16 in Arabic which were subsequently translated into English; and 6 in English. They were then transcribed for analysis using grounded theory techniques. The first iteration of this analysis generated an array of concepts. This was accomplished by dividing the data into units of text and asking of each of these questions such as: What does this represent? What does it mean? This technique generated a set of categories which described the phenomenon under study which were used to generate further categories and sub-categories to yield a detailed description of the privacy and electronic commerce phenomenon. Each category was assigned a unique name that encapsulated the full range of meanings within the category.

The quotation below is a concrete example of this process. The roman text represents an interviewee's response to a prompt to comment on the impact of privacy regulations on the growth of electronic commerce services in Oman and the bold text within square parentheses represents an encoding:

“The electronic purchase process requires attaching personal data, which is essential to complete the electronic transaction before completing the purchase process such as your address, your phone number, your bank details, etc. **[providing personal data is essential to completing an electronic commerce transaction]** If you are not sure whom you buy from, you will not repeat this process again with the same company or maybe you will never buy from the internet and therefore there will be fear of this experience. **[fear of using the internet]**

This will play a major role in enhancing confidence in the virtual world. **[enhance confidence and security to encourage people to use electronic commerce]**” R 8 legal expert.

It is clear from this example that this fragment of the interview data yields three concepts related to the privacy and electronic commerce phenomenon in Oman: (1) providing personal data is essential to completing electronic transactions; (2) fear of using the internet; and (3) enhancing confidence and security to encourage people to use electronic commerce. This fragment of the data was accordingly encoded in NVivo.

Furthermore, awareness phenomena were emergent when some consumers stated that consumers should exercise due diligence on websites before conducting any transactions on them, for example: “electronic commerce sites should be handled by the consumer with full awareness and responsibility and with care and checking before any electronic transaction takes place”. This consumer revealed another phenomenon, trust, in the following statement: “you can use much more famous websites that you trust like

famous website you can trust let say for example (Amazon)”. Relatedly, another consumer remarked: “Curiously, some of these sites do not include an electronic payment portal and require payment in cash at the time of delivery; this explains the consumer’s fear of electronic payment” (R 5 company representative). Moreover, another participant mentioned the security phenomenon: “I think the main factor is security and all that interests the consumer is the level of security that this platform provides”.

Another phenomenon arose in discussion of this participant when the following question was put to him: “Can you describe the legal factors that affect electronic commerce in Oman? The phenomenon of the lack of legal protection for electronic commerce affects the growth of electronic commerce”. He responded in the following terms:

“From my point of view, there is a pyramid and the law is the basic and important rule without which construction does not take place, so in the absence of these laws, we can’t talk about the development of electronic commerce”. R 20 electronic commerce consumers.

These emergent phenomena -website security, experience, practice, trust and the lack of a legal framework- were compared and the researcher posed further questions to gain a deeper understanding of them, such as: What does that mean? What does it represent? As a result, the phenomena were categorized according to shared characteristics and this process yielded three categories: technological, personal and legal factors. Another phenomenon that emerged from the data was the lack of a legislative framework which has two negative impacts: it hinders the growth of electronic commerce and it undermines consumer confidence in online payment systems. This emerged in discussion with R 8:

“Believe me if the Omani consumer is confident that there is a law that protects the data of the electronic consumer, the result will be greater confidence and a sense of security during electronic transactions and therefore believe me electronic commerce will flourish”. R 8 legal expert.

The same phenomenon also emerged when continuing the analysis and asking participants what they meant by the lack of a legislative framework. For R 14, this meant improving the ways in which the judicial/penal system in Oman dealt with cybercrime:

“I mean by law whether it's a special form of electronic trading and electronic commerce that's a reference for lawyers and litigants and the judiciary or even an administrative structure that specializes as courts like we have administrative courts when we don't have special courts for these cases. What prevents the existence of such courts of justice for cybercrimes?” R 14 electronic commerce consumer.

The phenomenon of website policy is categorized as a technological factor. Experience, trust, fear, and awareness is categorized as a personal factor and the lack of a legislative framework is categorized as a legal factor.

In order to organize the process of data collection, the researcher derived some primary categories by using theoretical sampling methods. Further phenomena were discovered by continuing with the critique strategy and using a consistent matching technique. One of these was electronic commerce consumers' perception of knowledge which emerged in response to the question "How do you know if the website is safe and secure?"

“When they know how to check websites, how to decide if this website is safe or not, it is very important, it is a matter of knowledge and a matter of the proper way of doing something”.

This quotation emphasizes the importance of the concept of knowledge on the part of consumers as a means of protecting themselves from hacking and other nefarious practices when purchasing goods and services through electronic commerce websites. This phenomenon is classified as a personal factor.

Two phenomena came to light when interviewing R 8 (a legal expert) in response to the question “Could you describe the legal factors that influence electronic commerce in the Sultanate of Oman?” The first was the importance of developing legal frameworks that we have already categorised as a legal factor. The second was IT readiness, a technological factor: “There are some extra factors that might influence electronic commerce in Oman, the knowledge and literacy and IT infrastructure readiness”.

This respondent alluded to further phenomena in response to the question “To what extent do you think that concern about the protection of personal data affects consumer willingness to buy online?” These were fear of shopping online (a personal factor) category and security issues which were classified as technological factors. Another respondent combined security and IT readiness themes:

“Of course, one of the most important reasons that both encourages them to shop online and prevents them from doing so is that the consumer is not ready to run the risk of being scammed, being exposed to theft, for the sake of buying a particular good which can be bought from traditional shops in the local market”

R 3 company representative.

In the second step of axial coding, data segments were compared to interrelate and categorize them and to plot relationships between categories and subcategories. The open coding phase identified three categories: personal, technological and legal factors. Once this step was complete, the researcher analysed respondents’ statements about personal data protection concerns and their impact on the growth of electronic

commerce in Oman. As one respondent remarked, privacy concerns share properties and dimensions with “knowledge”, one of the main concerns of consumers when shopping online; in the absence of certainty, he preferred traditional over digital markets:

“I personally prefer to buy from the local traditional market in cases of suspicion of fraud or hacking into my personal data even if the goods are less expensive on the website. As a result, it would be better to buy from traditional shops in cases of doubt or anxiety about dealing with websites” R 14 electronic commerce consumer.

Another participant emphasized the importance of protecting privacy online:

“Therefore, privacy and safeguards are very important on these sites especially as these sites do not accept waiver or condone you sharing your personal data on these websites. If they are unreliable, it is better not to deal with them”. R 15 electronic commerce consumer.

Moreover, another participant stressed the importance of legislative frameworks for electronic commerce websites:

“From my point of view, I still stress that the laws that protect consumers during electronic commerce transaction are among the most important factors affecting the development of electronic commerce” R 20 electronic commerce consumer.

This confirms that the lack of privacy regulations for electronic commerce is an dissuades consumers from shopping online. Following the paradigm strategy, this supports the conclusion that fear for one’s privacy when shopping online is a genuine emergent phenomenon and can be attributed to the lack of a legislative framework for regulating electronic commerce websites in the Sultanate of Oman.

Another participant stated that there is an obvious link between attracting foreign investment in the electronic commerce sector and the provision of regulation of electronic commerce websites.

“Oman undoubtedly seeks to improve and develop its legal system in general. Because the laws are the foundation stone to encourage both foreign and domestic investment in the electronic commerce sector” R 17 electronic commerce consumer.

Another participant, R 6, alluded to the differences between virtual and traditional markets in terms of good services, negotiation and warranty and argued that this necessitated the enactment of the Personal Information Protection Act:

“There is a bill that is yet to be considered in Oman for the protection of personal data which the government is still hesitant to enact for technological and security reasons”.

This was articulated particularly clearly in the following statement:

“There must be important laws for the protection of information privacy because the relationship between the consumer and electronic companies is growing rapidly. In particular, dealing with the virtual world is not easy because it is a digital world which does not exist in reality. There is no discussion or negotiation and no preview of the goods or services, so there must be a guarantee for all parties” R 6 legal expert.

By contrast, developed countries such as the UK and EU member-states have adopted robust privacy protection laws and this is one of the main reasons why electronic commerce sites in those countries are so highly trusted.

In this regard, an integrated set of laws is needed to protect the interests of stakeholders in electronic commerce (consumers, businesses and government) by, for example, providing secure payment systems which are still few in number and restricted to

payment for government services. One respondent articulated this demand in explicit terms:

“First of all, we need an integrated law for electronic commerce that defines all the features of electronic commerce. It should cover the consumer and producer or supplier sides in the form of legal protections and formulations and cover the financial side with such things as electronic wallets. For example, there must be a way to transfer your money and there is none in the sultanate of Oman in particular. There is an electronic payment gateway sponsored by Bank Muscat or the Central Bank, but its use is very restricted, limited to government and semi-governmental institutions, but at the consumer or citizen level in general, there are no such solutions” R 1 company representative.

Other respondents also mentioned these concepts which have been classified with other concepts under one umbrella. These categories are electronic commerce consumers, electronic commerce companies, and the role of government. The following table summarises all of the concepts that emerged from respondents in the open coding phase.

Lack of awareness	Developing an electronic commerce legal system
Fears of using electronic commerce websites	Enhancing confidence in electronic commerce websites
Boosting trust in electronic commerce	Government plans for electronic commerce
Secure payment protection	Improving IT infrastructures
Internet penetration	Age distribution of consumers
The importance of websites' experience	Companies' strategy
IT and computer literacy	Electronic commerce readiness
Website reputation	Privacy concerns
Trust	

Table (5): Concepts that emerged from the open coding stage.

The second and third stages of the grounded theory method are axial and selective coding. The main purpose of these is to compare and interrelate the concepts derived from open coding to integrate them into a hierarchy of categories and sub-categories. All these categories should be unified and organized beneath a "core" category.⁵³³ This process will be documented in detail in the following chapter. However, the categories that emerged from axial coding are consumer attitudes, IT readiness and the role of government. The core category is sharing responsibility for overcoming privacy concerns and developing an electronic commerce implementation.

⁵³³ Strauss Anselm and Corbin Juliet, 'Grounded theory research: Procedures, canons, and evaluative criteria' (1990) 13(1) Qualitative sociology 3.

6.3 Conclusion

This chapter has documented in some detail the methodology used to analyse the data collected in Oman. It has also provided concrete examples of the use of Straussian methods on the outputs of the Omani fieldwork.

The following chapter presents the findings that emerged from the data analysis. This will be done by examining the implications of privacy concerns for the growth of electronic commerce in Oman and demonstrating how the emerging hypothesis interrelates these factors.

Chapter 7 Findings

7.1 Introduction

This chapter will analyse the findings of Chapter 6 by applying the method of Strauss and Corbin (1990). This involves three steps of analysis: open, axial, and selective coding. The procedure in axial and selective coding steps is to develop categories and re-categorize them based on the open coding outputs. The paradigm model strategy will be used to discover the categories developed from the axial coding step to confirm the more general themes that explain the core category.

7.2 Findings from the Omani context

The following section discusses the findings that emerged from the fieldwork in Oman. The results from the Omani context were contributed by representatives of the three main groups of stakeholders in electronic commerce: consumers, businesses, and government. The open coding process was conducted to generate an initial array of themes from the fieldwork data. These were then compared and contrasted in order to categorise them under a single, core category. The following sub-sections will document these data analysis processes in greater detail.

7.2.1 Privacy concerns based on consumer perspectives (open coding stage)

The following subsections identify all the themes that emerged in the open coding phase of the data analysis. These will be classified into categories based on shared and differentiating characteristics. The two categories that emerged from this are demographic and personal.

7.2.2 Demographic factors

Two demographic factors were identified in the analysis of the Omani fieldwork: consumers' age and level of education. A number of respondents broached the theme of

age. This occurred most clearly in respondents' commentary on age as a factor influencing consumers' willingness to shop online, for example:

“Others prefer to buy online because they want to sit and relax; young people especially prefer to buy online to save time or money with some risk, it varies from individual to individual. In contrast, elderly people still prefer the traditional market to buy or sell”. Participant 8 legal expert

Respondents believe that the age of a consumer influences their willingness to shop online because young people are willing to take risks to save time and money. By contrast, their older counterparts are more risk-averse and prefer to shop in traditional out of a fear that their privacy will be violated if they surrender their personal details to an online payments system. Another participant drew the same linkages between age, willingness to shop online and risk-aversion:

“My concern usually when using these websites in this age it is very important to think about risk assessment but if you ask me when I was younger I would not talk about that concern because I used to buy whatever I want without taking the risk issue into account but usually in this age, you start thinking as an adult you know sometimes other websites are fake however other websites are secure and safe and well-known globally; most of my concern before going to the websites and buying anything is the safety concern” R 2 company representative.

This underscored the need to elicit further information from respondents about older persons' reluctance to entrust their personal details to online payments system. R 2 was forthcoming on the issue and attributed this risk aversion low levels of IT literacy and knowledge:

“Elderly people still prefer the traditional market to buy or sell because of the lack of literacy and knowledge regarding online marketing or because they are

not risk-takers like young people who prefer digital markets rather than traditional markets” R 2 company representative.

In an Omani case study of internet usage, Ghouse et al. argue that age is an important factor in electronic commerce activities in Oman. They reveal that most internet users in Oman are in the age groups 30-40 (49%) and 20-30 years (37%) and use the internet for both work and entertainment. By contrast, the age groups 40-50 years (12%) and 50 years and above (2%) use the internet solely for work-related activities⁵³⁴. In other words, the vast majority of electronic commerce users are aged 20–40 and their greater willingness to shop online probably correlates with higher levels of IT literacy.

The factor of education level also influences customer attitudes to electronic commerce services, in particular the extent of their anxiety that the privacy of their personal information might be compromised. According to respondents' statements, this factor correlates with the factor of age. Respondents from a variety of personal and professional backgrounds state that ignorance about internet security undermines consumers' willingness to hand over their personal data in online contexts. Consumers' level of knowledge of internet security is determined by education level and, when this is sufficiently high, it gives consumers the capacity to assess risks to their privacy in electronic commerce contexts such that, when they do surrender personal information, they do so with confidence. For the following respondent, knowledge influences consumers' willingness to shop online:

“There are some other factors that might affect electronic commerce in Oman, such as knowledge” R 20 electronic commerce consumer.

Another respondent remarked:

⁵³⁴ Suhail Ghouse, Monica Chaudhary and Omar Durrah, 'Socialization and the buying behaviour of the Arab child consumers: insights from Oman' (2020) 11(2) *Journal of Islamic Marketing* 461.

“When they know how to check the websites, how to decide if this website is safe or not it must be a matter of knowledge and the matter of the proper way of doing something” R 10 electronic commerce consumer.

R 10 went on to give a rationale for his view that knowledge influences the level of use of electronic commerce services:

“Because at least I can speak English, I can read English and the global websites most of them have an English section so it is easier for me it is easy. I believe education is one of the most important things in the electronic commerce sector; thus, firstly, I think about school and the government's role in teaching her citizens how to deal online and how to recognise true or fake websites. Then you do not have to worry about dealing online”.

Consumer knowledge affects consumers' willingness to shop online because, if they have no way to assess the security of a website, they will not be willing to hand over their personal details to it. It is for this reason that R 10 advocates that government empower and resource schools to teach students about Internet security and electronic commerce. Furthermore, the following participant proposes holding educational workshops in Oman to raise awareness of this issue:

“The presence of educational workshops is one of the most important factors in the development and prosperity of this sector at a level that satisfies the consumer and raises awareness in this important sector” R 5 company representative

Participants gave further policy advice on ways in which the government might raise awareness and alleviate anxieties about shopping online. The following company representative proposes conducting more educational workshops to raise awareness on the part of both consumers and companies:

“They should have played a very large educational role, not for the citizens only but also for the service providers” R 1 company representative.

This is a proposal also endorsed by R 5:

“The establishment of educational workshops seeking to raise awareness of the advantages of the electronic commerce sector is one of the most important factors in the development and prosperity of this sector at a level that pleases the consumer” R 5 company representative.

Consumers’ age and educational level are interrelated factors and are, therefore, placed in the same category. Both factors influence privacy concerns because they correlate with level of understanding of conducting of online transactions and the privacy protection capacities provided by electronic commerce websites.

In sum, customers' willingness to shop online is influenced by their age and education level.

7.2.3 Characteristics of electronic commerce consumers in Oman

The interviewer broke down the discussion with the interviewees concerning the following factors: trust, fears, confidence, experience, awareness, language, and IT literacy and internet access. To take the first issue, trust posed an obstacle for the participants and prevented them from shopping online. Most posited a correlation between trust and good reputation while shopping online; trust, they believed, must be built between websites and consumers. They also believed that this relationship directly impacted consumers’ willingness to submit personal data to websites and this is a view borne out by the research literature. The following is a fairly typical statement on the matter:

“Yes, many well-known websites have a good reputation around the world. Here are trusted sites whatever you buy, you get the guarantee, and whatever you buy,

you get the product in good condition. They care about your satisfaction and security and confidentiality; I have never heard any complaint against these websites. There are many stories in the market about websites which are trusted like Alibaba” R 2 company representative.

Another participant attributed the importance of trust to the fear of fraud and theft:

“Trust is a very important factor, since websites seem to be dealing with consumers with greater sensitivity to protect [their customers] from the risks of everyday electronic commerce, such as fraud and theft. This is because many consumers are reluctant to make electronic transactions if the integrity and privacy of their data are threatened” R 12 electronic commerce consumer

Another participant, R 1, expands on the issue of trust or why consumers are hesitant to shop online:

“Of course, on many e-commerce platforms, I abandoned the idea of purchasing because the identity of the person or the site is unknown. Once I lose trust in this site, I cannot give it any data or personal information - like your name, date of birth, or your civilian number - and sometimes you are surprised why they ask to know your age for example. Such things make the person refrain from buying and they abandon the idea of buying” R 1 company representative.

Moreover, consumers should be able to place their trust in Omani websites to encourage them to provide their personal information online. For instance, the following participant directly stated his preference for buying from global websites rather than their local Omani counterparts on the grounds of trust:

“Frankly, from my point of view, I prefer the global sites because they have a great reputation and global fame among people so I trust them more” R 18 electronic commerce consumer.

Another respondent confessed that they trusted global over local websites:

“Exactly if you go directly to the company’s websites as a global company, which you do not have in your country then you discover that those companies are much better than national companies. Besides, when you deal with them you feel comfortable and get the products in a good condition that is the reason why I like to deal with the global sites rather than the local sites”.

A further participant preferred global sites not only on the grounds of trust and security but also cheapness and punctuality:

“Global sites are often cheaper and the delivery time is clear, the system protection and security are high and there is a security system in place” R 14 electronic commerce consumer.

To encourage consumers to surrender their data online, safety and security problems must be mitigated. A high level of personal data protection should be provided on the internet in general and on online electronic commerce sites in particular. A legal expert in electronic commerce issues emphasizes that consumers must feel confident when submitting personal data online:

“I can answer it from my experience as an individual buying or selling anything online when you disclose your information with an entity you need to trust that entity to protect and not expose your data depending on the trustful relationship you are putting in them” R 7 legal expert.

In addition, he strongly emphasized the importance of the right to privacy as a sacred right before it was mentioned in the law. He stated this issue when he said:

“Privacy is not just a legal codification framework; it is also customary in every community because privacy under the sacred right considers all personal

information a sacred right for an individual to protect data with a certain sacredness associated with it and holiness must be understood”.

The following two participants have noticed this concern about privacy in electronic commerce matters when they said:

“In addition to the personal data, such as address, telephone and email as well as the details of your bank card, other data will be provided such as pin code, account number, card number, and expiry date, all these data are highly confidential and should not be provided until procedural safeguards are in place which protect them information and ensure privacy protection” R 12 electronic commerce consumer.

“The privacy of the information that you have provided to the company, these data are of great importance because they indicate you, your home and your credit card number and other personal data” R 19 electronic commerce consumer.

It is clear from these statements that a lack of trust on the part of consumers in electronic commerce contexts prevents them from surrendering their private data. What drives this distrust? Is it to do with low IT literacy or anxiety about shopping online? Is it due to the absence of a legislative framework or a lack of confidence in Omani companies? The previous section clarified that the lack of awareness and knowledge when shopping online drives older consumers’ preference for traditional over online markets.

Moreover, a comparison of those participants’ statements reveals that consumer trust and confidence are determined by fear, mistrust, and security concerns about technology. See, for instance, the following statement by a consultant and legal expert from the Information Technology Authority in Oman:

“I do not think that electronic commerce in Oman has developed significantly; it is still in its initial stages and is lacking a lot for several reasons, such as fear, mistrust, and security concerns about the use of this technology” R 1 legal expert.

It is clear from additional data that a lack of previous experience of websites is also a driver of mistrust. This much is implied by the following participant:

“If I had a friend who had previous experience with a website that might encourage you to go for it. Because I mean your friend had an experience and the website was safe so this would encourage you to use it if you heard that your friend had recommended certain websites you will go for it” R 8 electronic commerce consumer.

Similarly, the following participant attributes the lack of confidence when shopping online to a fear of unknown websites:

“If you are not sure who you buy from, you will never buy from the internet and therefore you will be afraid of this experience” R 1 legal expert.

The reason why consumers feel hesitant about providing their personal information, especially their name and bank account, is because of a lack of previous experience of conducting online transactions. They therefore prefer to buy directly from a traditional shop even if they want to buy through the internet.

By examining the interrelatedness of these factors, it is clear that consumers’ concerns about using the internet are driven by a combination of factors: lack of knowledge, low levels of IT literacy and internet awareness, and the sluggish and limited nature of the existing electronic commerce infrastructure in Oman. The primary reason, however, is ignorance of how to protect one’s personal details when using electronic commerce websites.

The importance of knowing how to use the internet and protect oneself while doing so accounts for why older consumers are markedly more reluctant to surrender their personal details than their younger counterparts: their levels of IT literacy are lower and their understanding and experience of the internet are poorer.

Indeed, participants attest to the fact that, if consumers are experienced internet users, they are more likely to be confident judges of whether a website is secure. When they make such judgements, participants try to make a connection between security and privacy. This is because, if they can protect their personal information and reliably judge the security of websites, they will protect themselves from fraud, theft, or other threats. For example, one participant said:

“ For most people and my colleagues who have experience in this field, the most important thing to worry about when dealing electronically is how much you can control any threat or what cybersecurity is provided to a person, and the security provided by the site to protect the personal and bank details of the consumer to enable the site to collect the amounts of money for such purchases, so many consumers use a bank card containing only the amount needed for such purchases to avoid fraud or theft or any violation” R 11 electronic commerce consumer.

7.2.4 Personal factors in the Omani context

Concerning privacy, participants revealed concerns about the willingness of Omani consumers to surrender their personal data in electronic commerce contexts. Based on their own experience of the electronic commerce sector, participants mentioned the effects of Omani consumers' attitudes to online shopping on Omani retail websites in particular. Omani consumer attitudes to electronic commerce significantly shape their privacy concerns.

For instance, some consumers in Oman are more willing to purchase from foreign websites but not from local Omani websites on the grounds that they do not trust the latter with their personal data. On this, the following participant remarked:

“Frankly, from my point of view, I prefer the global sites because they have a great reputation and global fame among people so I trust them more” R 18 electronic commerce consumer.

To understand the local context in greater depth, further information was sought on the factors that drive Omani consumers’ reluctance to purchase from Omani online retailers. To this end, an Omani company representative was interviewed and asked whether Omani consumers trusted Omani retail websites:

“Omani consumers are not comfortable dealing with local online companies because of security concerns. This makes consumers hesitant to deal with online electronic sites. Omani consumers are concerned because of their fear of fraud or money theft due to culture or awareness issues” R 3 company representative.

He attributes Omani consumers’ mistrust of local online outlets to security fears and cultural awareness. In other words, the situation would improve if local consumers were better informed about the benefits of electronic commerce and knew how to distinguish between safe and unsafe sites. Lack of awareness of electronic commerce is an obstacle in that it increases consumers' anxiety about their personal information. This participant also emphasized entrenched cultural attitudes as the reason why Omani consumers are reluctant to shop online:

“We have to encourage them, to motivate them to start utilising and moving towards this kind of e-commerce culture in Oman. Also, I think we have to give them some incentive why they have to do this; they have to move from very

traditional, classical way to buy, sell and deliver things to the modern way of purchasing online” R 4 company representative.

Another participant explained why Omani consumers are afraid to submit their personal data to local websites:

“Curiously, some of these sites do not include an electronic payment portal and require payment in cash at the time of delivery. This explains the poor level of security and thus consumers’ apprehension and fear. The most important elements of an electronic transaction are lacking, and this makes it no more than a traditional gateway with modern specifications” R 5 company representative.

He stressed that local Omani sites are not as professional as their global counterparts and this inspires suspicion on the part of Omani consumers:

“However, the current situation in Oman is not helping as many consumers in Oman are still wary of dealing with local sites. Because of the unprofessional nature of their service, these sites are not commercial, have no structure or employees, but are mostly personal and primitive” R 5 company representative.

Another symptom of the local lack of professionalism is intrusiveness. In a comparison of local and global online retailers, the following participant observed that the former require much more personal information:

“When you buy from a site like "Amazon" or a local company you are sometimes surprised by the number of questions from these local sites such as whether you are male or female, how old are you and your date of birth. This information is used in the future in ways that you do not expect” R 1 company representative.

Another participant made a similar observation:

“Sometimes they ask you for personal data and a worried consumer will be afraid of providing these sites with their data as these may be unreliable” R 5 electronic commerce consumer.

Moreover, security and safety concerns are among the main factors driving Omani consumers’ reluctance to shop online.

Both factors worry Omani consumers and make them hesitant to give their personal information online. At this point in the interview, participants often observed that Omani consumers prefer to purchase from traditional markets rather than online retailers because of these concerns. One participant remarked:

“From my point of view, I still feel hesitant about going through with online transactions asking myself many questions about the safety and security and so on shall I do this transaction or not” R 20 electronic commerce consumer.

As a consequence, Omani electronic consumers prefer to purchase from traditional markets rather than online sites:

“So, the consumers do not know what might happen if anything goes wrong with that process and they would rather deal with the traditional market rather than dealing with an online market where they don’t know what the consequences might be” R 3 company representative.

This relates to the fact that Omani consumers do not trust local websites with their personal information to these websites, for instance:

“I had no trust in local sites in Oman, and all my transactions were through global websites I used and they did not seem to bother me to change them” R 12 electronic commerce consumer.

For many Omani consumers’, local retail websites compare unfavourably with their global equivalents in terms of quality, delivery, credibility and, of course, security:

“Local sites lose out to global sites in terms of their quality and the level of competition in services, as well as their lack of commitment to delivery or credibility. Global sites provide much greater protection for the electronic consumer than that provided by local sites” R 13 electronic commerce consumer.

The data collection was completed using theoretical sampling and continuous comparison methods and this revealed that concern about the privacy of personal information is the main factor that drives Omani consumers’ mistrust of local electronic commerce websites. The following is a typical statement on the issue:

“Now technically, personal data is very important, we know that everybody uses their credit card or bank account, including personal data maybe if you lose this data somebody will take your money, you will lose all your money, you cannot trust, thus you should not do online transactions” R 10 electronic commerce consumer.

This is echoed by another participant:

“Very important to all segments of society and I do not expect or do not firmly believe that personal data can be exchanged in electronic commerce without trust between the clients who share this personal information within this framework. Consumers must be confident that the website is protected, secure and reliable and should be fully aware of who has taken their personal information and what amount of information is the maximum they should give” R 1 company representative.

This extraordinary fear of online culture prompts these consumers to make various excuses for not providing their details online to ensure the security of the sites they browse. For example, the following company representative said:

“This is an important aspect and some consumers may not wish to provide their data to the website, so they turn to a commercial intermediary to purchase the item through that intermediary. I think all this is due to the atmosphere of trust, security and protection mentioned earlier. If the consumer had been confident about the website, there would have been no problem in supplying this data to the website” R 5 company representative.

This the fear of providing personal details while purchasing online forces consumers to elaborate inventive schemes to mitigate the risks involved. For example, the following consumer credit cards with strict upper spending limits:

"Electronic commerce sites and buying anything online raises safety concerns, so I have different credit cards with a financial limit to avoid any risk that may occur" R 20 electronic commerce consumer.

Another consumer advocates outright avoidance of insecure websites:

“Therefore, privacy and safeguards are very important on these sites especially as these sites accept no liability for breaches of privacy or fraud on these websites. If they are unreliable, it is better not to deal online” R 15 electronic commerce consumer.

It is clear from these statements that Omani consumers consider electronic commerce websites a risky way to buy products. This can be attributed to their attitudes towards retail websites in general and their entrenched consumption habits. In other words, they are long accustomed to shopping from traditional stores, where they can talk directly to the retailer and see the product first-hand, and they do not have to hand over any personal information.

This was particularly marked in the case of a consumer who commented that security and safety concerns made him buy products from traditional outlets, even though the

quality of the products was inferior compared to what was available in online stores, to avoid the risks:

“I prefer to buy from the local traditional market in case there is any suspicion of fraud or hacking into my data even when the products are not as good compared to the products in online stores, it would be better to buy from traditional shops in case of doubt or anxiety about dealing with the website” R 14 electronic commerce consumer.

This prompted the researcher to ask a consultant and legal expert at the Information Technology Authority in Oman why Omani consumers feel so insecure when shopping online. He replied:

“Through my personal experience, fear and insecurity are the most important factors that make Omani consumers hesitant to buy electronically and choose to purchase from traditional outlets” R 8 legal expert.

One company representative reported that, when consumers shop online, the safety and security of their money and personal information are paramount concerns. However, he went on to say, when consumers feel safe and secure, they are happy to shop online for their daily needs regardless of the price on some occasions.

It can be inferred from this that Omani consumers are in principle happy to surrender personal information and have some awareness of the benefits of electronic commerce services. This is clear in the following statement:

“Well, I think people from my point of view start thinking about security and safety in two cases: the first case is when it comes to spending their money and the second is when it comes to their account details. We notice that people prefer to buy or sell through high-security websites. They don’t go to websites that they think are unsecured or untrusted so their preoccupation is about how to

secure their data and get good quality items even though they are sometimes a little bit more expensive” R 2 company representative.

Lack of training is another reason why Omani consumers feel hesitant about providing their details online. This was cited by a company representative advocating that the state organize educational workshops about the benefits of electronic commerce:

“They should have played a very large educational role, not for the citizens only but also the service providers” R 1 company representative.

The same recommendation was made by the following participant:

“The setting up of educational workshops to raise awareness of the advantages of the electronic commerce is one of the most important factors in the development and prosperity of this sector to a level that pleases the consumer” R 5 company representative.

The lack of awareness about electronic commerce services on the part of Omani consumers is another personal factor that exacerbates their concerns about submitting their personal information online. Some participants considered this a factor which negatively influenced the growth of electronic commerce in Oman. One respondent remarked:

“Electronic services as you know are not like traditional outlets. Consumers are dealing with computers or other devices and must be conscious of things that might go wrong. So, I would say that the first point is the culture or the awareness that affects electronic commerce in Oman. I would say Omani consumers have to be more aware of the virtual world of electronic commerce” R 3 company representative.

Omani consumers’ lack of awareness of electronic commerce services is arguably the major factor affecting the electronic commerce sector. The key aspect of awareness is

consumers' capacity to reliably judge if a retail website is safe or not. Omani consumers should be capable of exercising such judgement in order to protect themselves online and conduct electronic transactions safely. If they do not achieve this level of awareness, they will be reluctant to submit their personal information online as the following participant noted:

“From the consumer perspective and our experiences, you know if you are shopping online there are different ways to judge the website. So, for example, if the data is encrypted that will give you a level of security and you can determine this on websites you will find there is like a lock sign but most customers are not familiar with this and they all depend on word of mouth reputation” R 3 company representative.

Another consumer who is a veteran online shopper responded in the following terms when asked how he verifies that an electronic commerce website is secure:

“I trust the famous websites, for example Amazon. It is everywhere you can see it in the media and on the T.V I also draw on technical information such as the website address. At the very beginning of the address you find the protocol (http) which is normal for most websites here. What makes the difference is if the protocol is (https). The (S) means secure so that might be one criterion. I got this information from some technical people” R 9 electronic commerce consumer.

Some participants consider it the responsibility of the government to raise Omani consumers' awareness of electronic commerce and calm their anxieties about shopping online.

As a result, Omani consumers' perception of electronic commerce services affects their willingness to surrender their personal information in online contexts. This is

evident in some consumers' stated preference for traditional over online markets. If the government fulfils its duty to raise consumers' awareness about electronic commerce, this will reduce consumer concerns about shopping online. If this support is not forthcoming, the result will be greater social resistance to and avoidance of the electronic commerce sector.

In conclusion, electronic commerce in Oman is held back by consumer concerns about privacy which are determined by an array of different factors. The following table lists the personal factors that identified in the Omani context.

Age of consumer	Educational level
Trust	Confidence
Experience	Language
Ability to use computer and Attitudes to the internet	

Table (6): Factors influencing privacy concerns from a personal perspective.

This section has documented the demographic and personal factors affecting the electronic commerce sector in Oman. The next will address the factors that affect privacy concerns and assess the extent of their influence on the development of electronic commerce from a private sector perspective.

7.3 Privacy concerns from a private sector perspective (open coding stage)

Two categories or areas of concern from a private sector perspective have been identified: the lack of a legal framework for electronic commerce and E-readiness. These will be explored in depth to illustrate the ways in which they influence the privacy issues of consumers and, as a result, the implementation of electronic commerce in Oman to an adequate standard.

7.3.1 E-readiness as an organizational Factor

This section sets down the ways in which the electronic readiness of private companies influences consumers' privacy concerns and the implementation of electronic commerce in Oman. Respondents revealed two concepts about the factors that Omani companies face in relation to privacy issues. Indeed, through the open coding stage and the data interpretation process, it can be said that privacy concerns are affected by the following factors: the lack of laws which regulate Omani companies' implementation of electronic commerce and the electronic readiness of companies to practice electronic commerce. Both factors influence consumers' concerns about submitting their personal information via the Internet, as will be explained and, as a result, impedes the growth of electronic commerce.

On the issue of the absence of laws to protect consumer data in electronic commerce contexts as a possible obstacle to the growth of electronic commerce services in Oman, participants discussed the potential growth of electronic commerce if companies could count on a body of laws that protected both customers and companies.

Participants argued that the impact of regulation of electronic commerce at the corporate level remains unclear for companies. Some of them recognize the possible advantages of electronic commerce regulation for their services, but most Omani businesses do not recognize its implications for the growth of the electronic commerce sector in Oman. This is particularly clear in the case of a participant from Oman Air, the national carrier. The company does recognize the importance of electronic commerce regulation for their services as the following remark by their employee makes clear:

“Legislation is needed and required to be in place before utilizing electronic commerce in daily life” R 4 company representative.

He went on to say that regulation was important for consumers' peace of mind:

“They have to have proper legislation in Oman, so when consumers shop online, they will feel that they are protected.”

Indeed, if consumers have confidence in the security of online outlets, they will not be anxious about submitting their personal information. On this issue, the respondent from the Omani Information Communication Authority remarked:

“If you are not sure who you buy from, you will not repeat this process or maybe you will never buy from the net and therefore there will be fear of this experience” R 4 company representative.

This raises an important question: do Omani companies believe that there currently exists adequate legal provision for protecting consumers’ data online? Responses to this question will depend on whether companies have adopted and implemented electronic commerce services. There is a clear correlation in participants’ responses: if they are employees of companies that have implemented electronic commerce services, they are convinced that transactions are protected and there is sufficient legal provision for the regulation of electronic transactions. Conversely, if they work for companies that do not retail goods and services online, then they advocate that Omani consumers purchase directly from traditional markets.

However, when R 8 was asked why companies struggle with online retail and which obstacles prevent many other Omani companies from doing so altogether, he responded:

“If Omani consumers and companies are confident that there is a law that protects consumer data, consumer take-up will improve, there will be greater confidence in the security of electronic transactions and, therefore, e-commerce will flourish” R 8 Legal expert.

During the process of data collection, further questions were put to R 8 about the correlation between, on the one hand, the provision of data protection laws in Oman and companies' readiness for online retail operations and, on the other hand, the willingness of Omani consumers to buy from online retailers. He responded that the evidence showed that most Omani consumers feel that local companies do not provide secure platforms for online retail and, therefore, they do not trust the local electronic portal. In other words, if electronic commerce is to flourish in Oman, adequate legal protections will be needed for both consumers and companies:

“I think there is a need to enact a data protection law, and it should be one of the main priorities in Oman.”

Another respondent, a company representative, remarked on the same issue:

“The main issue is the lack of legal protection in terms of protecting the privacy of customers” R 1 Company representative.

Indeed, this illustrates that the lack of legal provision in Oman is a barrier to ready participation in electronic commerce for both companies and consumers. This places an upper limit on the number of consumers who are willing to shop online because they do not trust local companies with their personal information and, as a consequence, they vote with their feet by purchasing from bricks-and-mortar retailers.

This inadequacy in the laws that regulate electronic commerce underscores the urgent need for both the public and private sectors to urge the government to enact a body of laws for the sector. This will boost the participation of consumers and companies in online retail. Respondents' statements repeatedly attest to this, for example:

“The country should keep pace with the development of electronic commerce by updating its laws regarding privacy, electronic money, electronic signatures, etc”

R 8 Legal expert.

He added:

“I think the main concern is that different stakeholders need to cooperate to create mechanisms by which to eliminate the customers’ fear of using electronic services.”

The second organisational factor affecting Omani companies’ capacity to adopt electronic commerce services is their E-readiness. Participants noted a lack of adequate infrastructure to practice electronic commerce effectively. This, in turn, increases consumers’ anxiety about submitting personal information to local websites and encourages their preference for global online retailers.

For instance, Omani companies should put in place security policies that protect consumers’ personal data and alleviate concerns about the risk of fraud and theft when conducting online transactions. They also need to meet consumer expectations regarding the delivery of purchased goods and services. The researcher interviewed various individuals involved in electronic commerce in the public and private sectors one of whom commented in relation to infrastructure and frameworks:

“Electronic commerce will depend on the framework that you have in place in information technology and that will influence the development of electronic commerce” R 7 Legal expert.

He added:

“Oman has still not digitalised to the same extent as other countries have done. For example, if you are in the USA or Europe, you will see lots of electronic commerce activities” R 8 Legal expert.

Another specialist who works in the private sector stressed that an additional obstacle was Omani consumers’ relative ignorance about credit cards as a method of payment and the steps they needed to take to protect credit card details:

“I also noticed that they can reveal this information to anyone, they have no sense of having something to lose from these personal cards because they are not aware of the importance of the card numbers” R 1 Company representative.

That is to say, payment tools are another factor affecting electronic commerce. Few Omanis are willing to carry credit cards and use them for online payment; this constitutes a serious obstacle to practicing electronic commerce. Moreover, companies in Oman lack the infrastructure to process online payments by credit card.

In the absence of a trusted and understood payment gateway system, both consumers and companies are hesitant to participate in electronic commerce. For instance, one participant remarked:

“One of these problems is that some banks are conservative in the payment process because they don’t know this international company and some banks in the sultanate of Oman are still suspicious of proceeding with some payments” R 12 electronic commerce consumer.

Another participant noted:

“There is an electronic payment gateway sponsored by Bank Muscat or the Central Bank in Oman, but its use is limited to government and quasi-governmental institutions, and at the consumer or citizen level there are no such solutions” R 1 Company representative.

The lack of legal provision also undermines the trust of companies and consumers. The electronic readiness of companies for online retail is a similar issue. If it is addressed, companies will be well-placed to surmount the obstacles to adequately implementing electronic commerce and consumers will be more willing to entrust their personal information to online payments systems. Companies in Oman must bear in mind that the adoption of electronic commerce affords them competitive advantages and the

opportunity to expand their activities. With this attitude, they will be able to face the challenges of implementing electronic commerce.

Therefore, if companies are e-ready and legislators provide an adequate legal framework for data protection, Oman has the potential to become a thriving hub of electronic commerce activity. As things stand, however, consumers and companies are unwilling to engage in electronic commerce because of privacy concerns. If organizations provide effective systems for electronic commerce services, this will allay consumer concerns about their personal information and motivate them to shop online. The next section will examine privacy concerns of privacy from a public sector viewpoint.

7.4 Privacy concerns from a governmental perspective (open coding stage)

Two categories were disclosed related to the perception of the public sector these factors affecting the high-quality implementation of electronic commerce in Oman and the consumer's privacy concerns regarding submitting their personal information online.

7.4.1 Governmental factors

The governmental phenomenon encompasses the influence of awareness factors on the government's readiness to encourage both companies to adopt electronic commerce in their daily services, and consumers to submit their personal information.

Another factor within the governmental phenomenon is the programme of electronic government proposed by the Oman vision and its potential impact on the growth of electronic commerce in Oman. The impact will be positive insofar as it encourages citizens to go online to access governmental services and hand over their personal information. The imprimatur of the state will help to alleviate citizens' concerns about the security of their personal information online.

Participants identified awareness as one of the main factors that affect the government's willingness to implement electronic commerce services. They commented positively about the possibility of establishing well organized digital services and raised certain issues about the level of internet availability in Oman. For example, delivering e-governmental services in Oman will encourage the private sector to adopt these services. Indeed, Omani governmental services need further development because it is still difficult to reach some citizens because digitisation in Oman has not gone far enough. Any online system that delivers products or services must have accurate contact data (number, street name, postcode and so on). The shortfalls in digitisation in Oman, including the extent and reliability of contact data, discourage the growth of electronic commerce and, as a result, prevent Omani consumers from managing their affairs online and sharing personal information with confidence. For example, one participant remarked:

“The advantage of purchasing online is that it can be done from anywhere such that people can be in their office and just click a button and buy things that get delivered to their home. This is not a common thing in Oman at this stage because of the lack of accurate numbering of houses and buildings and streets such that it will take some time before electronic commerce becomes more common and well-known” R 7 Company representative.

Another participant commented unfavourably on his experience of delivery of an item purchased online:

“Concerning delivery matters, when you purchase anything online in Oman, the company will ask you share your location it was a shock because there is address data like house numbers and street names is not accurate” R 10 electronic commerce consumer.

It is clear from this that Oman has yet to put in place the requisite policies to support electronic commerce which makes consumers hesitant when shopping online. The successful implementation of electronic commerce in Oman depends on impactful e-government programmes which give consumers the confidence to participate in electronic commerce activities. This will take time, however, as one legal expert working in government observed:

“Although the concept of e-government is important, it will take time to be implemented in Oman” R 7 legal expert.

He went on to add:

“Vision 2020 has already been implemented, but we still need much more effort to develop the electronic commerce sector in the Sultanate of Oman.”

It is obvious from this response that it is necessary for the Omani government to invest greater effort in the implementation of e-government in order to encourage the private sector to adopt electronic services in its daily activities. This will alleviate consumer fears about violations of the privacy of their personal information.

The limited extent of current e-government services in Oman does little to raise Omani citizens' awareness of the internet or habituate them to making use of it to manage their affairs. They are simply not used to doing things online such as shopping and, consequently, they get very anxious about sharing personal information via the internet.

It is clear from participant testimony that e-government is highly dependent on awareness of the importance of establishing well organized and effective services; if government executes these services effectively, then e-government implementation is much more likely to be successful. Accordingly, the success of e-government depends on the fulfilment of electronic commerce requirements, which will encourage consumers to share their personal information online. As citizens gradually adjust to

using government services online, their awareness will grow in tandem with their participation in electronic commerce.

7.4.2 Legal Factors

The regulatory environment in Oman is another important factor affecting concerns about privacy protection in the electronic commerce sector. Indeed, the lack of regulation in the form of data protection, electronic signature and consumer protection laws is held up by respondents as the factor mainly responsible for consumers' reluctance to shop online and share their personal data. These deficiencies in the current legal regime in Oman hinder the growth of electronic commerce in Oman. On the one hand, participants pointed to a basic set of regulations that should be enacted in order to put the electronic commerce sector on a stable footing and provide consumers with adequate protection when shopping online. On the other hand, participants stressed that the privacy issue is one of the most important factors impeding electronic commerce and undermining consumers' willingness to shop online. This is an area, they go on to say, which requires legal regulation as a matter of urgency.

In this regard, the researcher interviewed a legal specialist in electronic commerce to ask him whether the existing regulations in Oman are fit for purpose. In response, he noted that:

“The electronic commerce sector requires laws that protect consumers who use electronic commerce services insofar as, if you don't have them, you are going to fail to gain peoples' trust and confidence” R 7 Legal expert.

Another participant went further and stated badly that the required regulations are not in the statute book and should be enacted urgently:

“Even though there is a chapter about data protection in Omani electronic transactions law, there is still no law for the protection of personal data in Oman,

which necessitates enacting a specific law to protect personal data” R 8 Legal expert.

Participants cite the Electronic Transactions Act (69/2008) as the main law that currently regulates electronic commerce in Oman, for example:

“The basic regulation concerning electronic commerce is the Electronic Transactions Act of 2008, which I cannot say is perfect since it is not very clear in terms of how to share or protect consumer information as the law in itself is open to interpretation” R 8 Legal expert.

By advancing the process of data collection and interviewing more specialists working for public authorities, other flaws in this law were discovered. For example, this law needs to be updated and revised to cover all legal aspects of both electronic commerce and privacy. Furthermore, it is vague on several issues such as privacy concerns, digital certificates, and consumer protection. Another participant confirmed that the electronic transaction law needs to be updated to extend its coverage to all aspects of electronic commerce:

“We still need to develop these laws to keep pace with rapid developments. We are still in the initial steps and need a law to protect electronic consumers and their data” R 8 Legal expert.

He went on to provide further justification:

“There must be laws to protect the privacy of consumer information because the relationship between the consumers and electronic commerce companies is growing rapidly.”

Indeed, a modest corpus of such laws will protect both companies and consumers and give them confidence and security in conducting online transactions.

The specific areas of the law to which legislators should direct their energy and attention are consumer protection, digital signatures, and data protection. It is a matter of regret that, at the time of writing, the legislature is still debating the very necessity of such laws. It is clear from the interview data that, for the participants, data protection is the most important of these areas and the one in most urgent need of legislative initiative. Participants were also unambiguous about the core purpose of a personal data protection act: to provide consumers with sufficient protection and security when dealing with electronic commerce websites. This was clear in their commentary on privacy concerns in the contemporary Omani context, for example:

“I think we have to provide them with a certain level of legal protection which can motivate them to start utilising and moving towards this kind of e-commerce” R 4 company representative.

Another participant added:

“Omani lawmakers should address this aspect with care and precision to support this important sector and protect the security and privacy of the personal data of consumers and companies” R 8 Legal expert.

The deficiencies in Omani law regarding electronic commerce and personal data protection arise from a lack of legal experience of and expertise in electronic commerce affairs. That is to say, few if any cases involving electronic commerce have ever come before Omani courts. The Omani judiciary and legal profession, therefore, need relevant

experience of such cases to gain a fuller understanding of all aspects of electronic commerce. One legal specialist pithily characterized the current state of affairs:

“Although this is one of the most important factors in the future, Omani courts have yet to pass down any judgements on such matters” R 5 Legal expert.

Another participant, an electronic commerce consumer, suggested that:

“There should be a type of coordination at national and international levels to enhance Omani judges’ knowledge of EC. Alternatively, there should be a specialist court to deal with EC cases” R 8 electronic commerce consumer.

To conclude, the adoption of electronic commerce and privacy matters in Oman are affected by various factors which are summarized by the following table:

Awareness factors	Lack of regulations
Consumer age	Confidence
Educational level	Trust
Awareness within companies about electronic commerce	Little or no history of court cases to do with electronic commerce
Infrastructure	Lack of digitalized systems
Internet penetration	The impact of successive e-government initiatives
Computer and internet literacy	Insufficient payment tools
Language	Lack of cooperation between government and companies
Lack of legal expertise	

Table (7): Factors affecting electronic commerce in Oman

The government plays an important role in encouraging Omani consumers to engage with the electronic commerce sector. Before laws in areas such as data protection, electronic signatures, and consumer protection can be enacted, the government must send appropriate bills to legislators as stipulated in Oman's Basic Law. Moreover, the government has a responsibility to implement the provisions of the law and ensure that they are enforced. This also includes the responsibility to enact laws that ensure the effective implementation of laws. Indeed, Article (2) of the Electronic Transaction Act of 2008 states that “the Minister of National Economy shall be responsible for the implementation of the provisions of this law.”

Consequently, the lack of sufficient and effective laws in Oman leads to a relative lack of legal expertise in privacy and electronic commerce affairs and these two factors negatively affect the implementation of electronic commerce in Oman. The following section will examine the relationships between categories and sub-categories that have arisen from the application of data collection methods.

7.5 Relationships between categories (axial coding stage)

As explained in section 5.10.2 (Procedures of the Straussian approach) the second step of the analysis is to conduct an axial coding strategy which allows the researcher to plot connections among the emerging categories and sub-categories. As explained earlier, this is accomplished by using the paradigm model.

Six categories emerged from the open coding step and this assisted in the initial categorisation of the emerging concepts. The emerging categories in the axial coding step will be reduced by comparing and re-categorising relevant categories inside a single category by applying a continuous comparison process and theoretical coding, all of which helps the researcher to develop theory as recommended by the guidelines of Urquhart and her colleagues.

Three categories were developed in the axial coding stage: consumer attitudes, company readiness and the role of government. All concepts that shared properties and features associated with consumers were gathered into the consumer attitudes category. Each factor linked to the private sector was classified below the category of company readiness to execute electronic commerce services. The final category in the axial coding step was identified as the role of government. The following sub-sections will explore these categories in greater depth.

7.5.1 Consumer attitudes

The first phenomenon to emerge during axial coding was consumer attitudes to primarily two things: sharing their personal information via the internet and dealing with electronic commerce websites. This category was selected since it enabled the researcher to identify relationships between categories. For instance, the following participant commented in the following terms on the impact of consumer attitudes on sharing personal information online:

“The electronic purchase process requires attaching personal data which is essential to complete the electronic transaction before completing the purchase process, such as your address, phone number, bank details, etc. If you are not sure who you are buying from, you will not repeat this process” R 8 legal expert

An Omani company representative observed that the broader culture shapes consumer attitudes to electronic commerce:

“Before we can start using electronic commerce in daily life, I think we need to think about the culture. It does not help matters since Omani people are not used to EC” R 4 Company’s representative.

The situation is exacerbated by shortcomings in awareness and knowledge of electronic commerce (for more details see sub-sections 7.2.2 Demographics factors and 7.2.4

Personal factors). Indeed, an individual's lack of awareness makes them wary of shopping online and handing over personal information. This issue was explored further by interviewing a public sector representative and querying him about the influence of consumer attitudes. He remarked:

“I think there is a lack of awareness and knowledge on the part of Omanis regarding the benefits and advantages they can derive from electronic commerce” R 8 legal expert.

Distrust was also a significant component of consumers' attitudes which accounted for their reluctance to shop online. On the whole, they prefer the safety and anonymity of traditional markets and avoid potentially unsafe online retail outlets which intrusively require them to surrender personal information. Commenting on the factor of trust and consumer attitudes, a legal expert remarked:

“The distrust manifests itself in the fact that people, in the absence of safe payment methods, prefer to avoid buying electronically, because there is a risk of theft of their personal information” R 8 legal expert.

He went on to note that a lack of professionalism on the part of local online retailers did little to inspire consumer confidence:

“In addition, the lack of professionalism of local websites affects individuals' attitude towards shopping and sharing personal information online.”

This criticism was echoed by another participant:

“Many consumers in Oman are still wary of dealing with local sites because of the unprofessionalism of their electronic service” R 5 company representative.

The age distribution of Omani consumers has implications for electronic commerce strategy in Oman. The reason is that younger generations of Omanis live much more networked lives they are eminently contactable, for example than their older

counterparts. For instance, the following participant noted that younger consumers are more willing to shop and share data on the internet:

“Young people may prefer to buy online to save time or money. In contrast, elderly people still prefer the traditional method of buying and selling” R 2 company representative.

He attributed this to younger consumers’ greater familiarity with and willingness to use technology compared to older consumers:

“Elderly people still prefer the traditional market to buy or sell because of their lack of knowledge of online markets. On the contrary, young people prefer the digital market over the traditional market.” R 2 company representative.

7.5.2 Company readiness

If companies in Oman are to become effective agents in the field of electronic commerce, various organizational challenges have to be faced to equip them to meet the requirements involved in offering electronic commerce services (for more details see section 7.3 Privacy concerns from a private sector perspective). This can be done through a number of measures, for example: the provision of adequate and effective electronic payment gateways, ensuring that websites are safe and secure, designing and enforcing a well-organized policy to protect privacy, and Arabic language localization.

This participant gestured in this direction:

“The key factor is the level of security that this platform provides. For all consumers, a secure site is more important than a good one. With an increase in fraud and security breaches, security measures are critical to growing consumer’s confidence. Security and information safety is important” R 5 company representative.

He added:

“Some consumers may not wish to provide their data to a website. I think such a thing is due to the atmosphere of trust, security and protection. If the consumer had confidence in the website, he would have no problem giving his data to the website.”

Omani companies must demonstrate awareness of the benefits of implementing electronic commerce services. If Omani companies are convinced of the advantages of electronic commerce, then they will meet and fulfil the requirements of adopting it to deliver services on a daily basis. This highlights the importance of awareness on the part of Omani companies of the benefits of electronic commerce technology.

It is important to encourage Omani consumers to deal with local rather than international sites as the following participant noted:

“I prefer dealing with global sites and because of the experience they’ve got over the years. Indeed, global sites have provided these services as well as competitive prices and high-quality products, they have credibility and provide consumer protection. That is while local sites are limited in their capacity to compete. They lack quality and lack goods” R 13 electronic commerce consumer.

As was discussed in 7.3.1, the technical demands of electronic commerce are a significant barrier to the adoption and implementation of both electronic government and commerce in Oman. For instance, if the government were to adopt an effective digitalization policy, this would significantly enhance both electronic commerce and government services in terms of such things as delivery. As things currently stand in Oman, delivery of products and services is sluggish and sometimes fails altogether, as this participant attested:

“One of the reasons for not shopping online is a lack of confidence in delivery and fear of losing products, and also there is a fear that personal data might be manipulated” R 8 legal expert.

Companies’ e-readiness depends upon the electronic government program. The current inadequacies of the latter undermine the readiness of Omani companies and are failing to habituate Omani citizens to the practice of accessing goods and services online. This does nothing to alleviate the prevailing fear about surrendering personal data via the Internet (for more details, see subsection 7.4). A successful electronic government programme would provide valuable infrastructure to companies and lower the entry costs of electronic commerce (as discussed in subsection 7.4.1). This participant urged the Omani government to implement the e-government vision to enhance the electronic services:

“Once the EG vision 2020 gets implemented, it will demonstrate how EC, data protection and privacy have an impact on each other” R 7 legal expert.

As long as the e-government vision remains unrealized, Omani consumers will continue to favour the global behemoths of electronic commerce, as this consumer attests:

“Frankly from my point of view, I prefer global sites because they have a great reputation and global fame among people, and so I trust them more” R 18 Electronic commerce consumer.

If Omani consumers feel protected when shopping online, this will encourage them to entrust their personal information to online retailers. This consumer trust rests upon companies’ ability to improve in technical and non-technical areas in order to overcome the obstacles to implementing electronic commerce, especially privacy issues.

7.5.3 Role of government

The lack of regulations for personal data protection in the context of electronic transactions is a significant obstacle to implementing electronic commerce to an adequate standard in Oman. It falls to the government to address this shortcoming. Besides this, the government also plays an important role in organizing training workshops to raise awareness and reduce the fear of privacy. This was made clear by a legal specialist in response to a question about the extent to which a legal framework should take into account the rights of Omani consumers, on the one hand, and the commercial imperatives of companies, on the other:

“It is essential to strike a balance between the rights of individuals and companies operating in this area, thus privacy laws are a fundamental pillar that provides protection and assurance to consumers and encourages them to deal with EC” R 6 legal expert.

The absence of privacy laws discourages both companies and consumers from participation in electronic commerce. The latter are particularly loath to trust retail websites. Moreover, it is important to allay consumers’ fears about sharing their personal information to encourage them to shop online. Several participants stressed the government’s role in resolving this issue. The following company representative advocated that the government organize more workshops to raise awareness among both consumers and companies:

“They should play a very large educational role, not only for citizens but also for the service providers” R 1 company representative.

Another participant made the same recommendation:

“The setting up of educational workshops to raise awareness of the advantages of electronic commerce is one of the most important factors in the development

and prosperity of this sector to a level that pleases the consumer” R 5 company representative.

The little legal provision that is currently made, the electronic transactions law of 2008, came in for criticism:

“The electronic transaction law is not perfect since it is not very clear in terms of how to share or save information so the law in itself is open to interpretation” R 7 Legal expert.

In a similar vein, the following participant stressed the importance of enacting an adequate set of laws to regulate the electronic commerce sector before developing IT infrastructure:

“Real electronic commerce maintains certain standards. For example, before you start anything, you should have a law as a basis on which to build technical things” R 1 company representative.

If laws are enacted, this will boost consumer confidence that their personal information will be safeguarded.

By way of summary, the axial coding step generated three categories: the role of government, company readiness and consumer attitudes. These categories significantly influence the extent to which privacy issues are addressed and the growth of the electronic commerce sector. The inadequacy of the government’s implementation of the Oman vision, for example, has had a significant negative influence on the electronic commerce sector because it has so far failed to encourage both consumers and companies to participate in online retail. Neither has it done anything to alleviate consumers’ fears about sharing their personal data with online retailers. Moreover, the lack of awareness that companies demonstrate in their implementation of electronic

commerce services deters consumers from buying from local online retailers and makes them reluctant to share their data.

Furthermore, other results emerged from the analysis of consumer attitudes to shopping online, particularly in relation to the sharing of personal data. The next subsection turns to the final step of the data analysis which is to identify the core category that subsumes all of the categories and subcategories that emerged from the axial coding step.

7.6 The core category of Omani context (selective coding stage)

It is important to identify a fundamental category which should descriptively encapsulate a response to the question “What is this research about?” This category should subsume every category that emerged from the open and axial coding phases of the data analysis to create an interpretive perspective of the current research (Strauss 1987).

The main goal of this strategy is to generate a theory based on Omani circumstances. The selective core category is arrived at by utilizing certain techniques (5.10.2). The first of these is to survey a sample of respondents’ statements on a common theme:

“Consumers must be very conscious and aware, especially in the case of high value goods, and must have substantial guarantees before making the purchase. The electronic consumer must therefore investigate the integrity of the site and the extent of its protection” R 12 electronic commerce consumer.

“From personal experiences we encountered with different social groups of varying levels of education, I noticed substantial ignorance of the meaning of information security and even the institutions of the country” R 1 company representative.

“The existence of educational workshops to raise awareness in this important sector is one of the most important factors for the development and prosperity of this sector to a level that pleases the consumer” R 5 company representative.

“Frankly I do not see that much awareness in the Sultanate of Oman of the field of electronic commerce” R 7 legal expert.

These samples provide initial indications about the contemporary Omani context in terms of privacy concerns and electronic commerce implementation. Indications of this kind shift the focus from a descriptive to a conceptualisation approach which helps in specifying the core category.

The core category describes the various ways in which Omani consumers’ concerns about privacy affect their willingness to surrender their personal information in online retail contexts. It is interesting to study the influence of privacy regulations on the growth of electronic commerce in Oman. It is also interesting to study other obstacles to electronic commerce adoption in Oman and their influence on privacy issues. Omani consumers’ concerns about sharing their data are shaped by their attitudes to electronic commerce which, in turn, determine the extent to which they are willing to entrust their data to online retailers. Their perspective is influenced by the level of their awareness and knowledge of electronic commerce.

Age is also a factor determining Omani consumers’ willingness to share their personal information online: younger consumers, who have higher levels of IT literacy and live lives that are more intensely mediated by the internet, are more willing to do this than their older counterparts. Younger consumers have also become highly habituated to networked computer use at school and university and, as a consequence, they are very knowledgeable about the internet. This means that they are relatively well placed to protect themselves when shopping online.

It is also important to highlight that the main stakeholders in electronic commerce consumers, government, and companies have a shared responsibility to cooperate in order to enhance the electronic commerce sector and alleviate the concerns and fears that stand in the way of adopting this new technology in Oman. On the issue of company readiness, it is clear that companies are held back by a lack of the kinds of infrastructural support that would enable them to effectively offer electronic commerce services. These include personal data protection procedures and electronic commerce payment gateways overseen and monitored by the Omani government. Government and the companies concerned, therefore, have a shared responsibility to facilitate and implement a successful electronic government programme which would provide a platform for electronic commerce and encourage Omani consumers to share their personal information and transact online.

Moreover, the government has a further part to play in encouraging consumers to shop and share personal data online. That is to say, it should regulate the electronic commerce sector by enacting a set of laws in the areas of consumer protection, electronic signatures, data protection, and electronic commerce.

Previous subsection have documented the deficiencies of current regulation and the ways in which they hinder the development of the electronic commerce sector. It is necessary to tackle these deficiencies to alleviate consumers' privacy concerns with a view to promoting the electronic commerce sector.

Attention now turns to identifying the core category that subsumes the categories and subcategories that emerged from the open and axial coding steps. Following in-depth reflection, the phrase "Sharing Responsibility" is chosen as the core category to describe all the categories that emerged from analysis of the collected data.

Sharing responsibility was chosen as the core category because it is central to the task of allaying consumers' concerns about sharing their personal information in online retail contexts. To achieve this goal, sharing responsibility must be imposed as a duty on the main stakeholders in the electronic commerce sector, that is to say, consumers, companies, and government.

The government needs to encourage companies to implement electronic commerce services and consumers to share their personal information online. The government also needs see its electronic government vision through to successful completion and oversee certain legal reforms in order to give consumers and companies the confidence to participate in online retail.

In addition, companies have a responsibility for their own e-readiness which will enable them to support consumers with secure and professional platforms for online retail that protect the privacy of their personal data. Companies' willingness to meet the demands required to provide high-quality electronic commerce services will depend, in turn, on the government's success in implementing its vision for electronic government in Oman. This was initiated in 2004 but today requires greater investment of time and money to improve infrastructure and technical services and put in place a legislative framework to support a successful implementation of electronic government services.

In the absence of this additional investment, Omani companies will continue to suffer the consequences of low levels of awareness and knowledge of electronic commerce and will remain reluctant to provide online retail services. Moreover, this obstacle can be removed if the government responds to privacy issues and encourages consumers' willingness to shop online.

This brings us to the government's role in enacting a set of laws to regulate, oversee and organize the electronic commerce sector in Oman. The most important of these is a

personal data protection law. Moreover, both government and interested companies need to invest greater effort in upgrading and expanding infrastructural capacity to implement and electronic commerce services with a view to encouraging both companies and consumers to participate in online retail. For this to be successful, Omani companies must be convinced of the advantages of electronic commerce in terms of future profitability. Companies must also meet all the requirements involved in implementing electronic commerce services to a high standard and guarantee the safety and security of consumers on their online retail platforms. According to interviewee testimony, this can be done by enacting a set of laws to guarantee that personal information will be protected when conducting electronic commerce transactions.

In conclusion, the government has an important role to play in promoting the growth of electronic commerce growth in Oman. If there is a genuine political will to adopt this new technology, it must cooperate and share responsibility with the other main stakeholders, namely consumers and companies interested in electronic commerce, for addressing the prevailing concerns about personal data breaches in online retail contexts. The government's role is key because it is the only authority which can enact and enforce the changes necessary to solving the privacy issues of consumers. Such intervention is essential; in its absence, further development of the electronic commerce sector in Oman will be limited. Government intervention will also only succeed if companies in Oman assist the government in habituating consumers to the use of electronic commerce services and encouraging them to share their personal information online.

The following chapter will set down the grounded theory generated about the contemporary Omani context in terms of privacy concerns and its implications for the development of the electronic commerce sector in Oman.

Chapter 8 Discussion of Findings

8.1 Introduction

This chapter will discuss the findings that emerged from the Omani context concerning privacy and its influence on electronic commerce implementation in Oman. It is clear that privacy concerns are a major obstacle to implementing electronic commerce implementation in Oman. The key to solving the privacy issue is the sharing of responsibility between government, companies, and consumers. This chapter will visit each of these stakeholder groups in turn to discuss their respective roles in addressing the privacy issue.

8.2 Consumer attitudes

This research reveals that, to address consumers' anxiety about sharing their personal information, all stakeholders in the electronic commerce sector need to collaborate to find a durable solution. Every consumer is of course looking for the best value goods and services, but best value is not an objective, universal standard;⁵³⁵ rather, it is for each consumer to judge the best value goods and services for themselves. Some seek quality while others prioritize the lowest prices. Electronic commerce opened doors and diversified the options available to consumers by creating a form of extreme competition on a global scale. In order to gain any kind of competitive advantage, therefore, online retailers must continuously diversify the range of goods and services they offer in ways that are distinctive and appealing to consumers. In addition, they must develop their services to secure and retain the trust of customers and tailor their offers to fit customers' individual tastes. To this end, they need to track consumer needs, evaluate customer satisfaction and respond rapidly to evidence that their overall

⁵³⁵ Abdel Moneim Moussa Ibrahim, *Consumer Protection* (Al-Halabi Rights Publications 2007) 175.

offer is wanting in any way.⁵³⁶ Which is to say that online retailers must be swift to respond to changes in the market and extend and upgrade organizational capacity if required. Electronic commerce imposes upon companies the imperative to develop their catalogue to meet the diverse cultural and behavioural needs of their target clientele.⁵³⁷ This means that the shelf-life of products should be brief and catalogues need to be constantly reviewed.⁵³⁸

In an Omani case study, Al-Gharbi and Ashrafi find that Omani consumers prefer not to buy from faceless sellers because they find it difficult to trust websites and, conversely, Omani companies do not trust electronic commerce as a method of payment for their services.⁵³⁹ This makes Omani consumers worried about providing their personal details to untrusted websites.⁵⁴⁰ A finding of this research is that this attitude is rooted in a lack of trust in Omani websites, and that Omani consumers feel unprotected when shopping online.⁵⁴¹ Furthermore, their preference is to communicate face-to-face with an actual

⁵³⁶ Ashwin Sah, Ravi Kiran and Urvashi Tandon, 'The influence of website functionality, drivers and perceived risk on customer satisfaction in online shopping: an emerging economy case' (2018) 16(1) *Information Systems and e-Business Management* 57.

⁵³⁷ Iva Konda, Jasmina Starc and Barbara Rodica, 'Social challenges are opportunities for sustainable development : Tracing impacts of social entrepreneurship through innovations and value creation' (2015) 53(2) *Economic Themes* 211.

⁵³⁸ Ahmad Muhammad Ghoneim, *Marketing and E-commerce* (Modern Library for Publishing 2009) 83.

⁵³⁹ Khamis Al-Gharbi and Rafi Ashrafi, 'Factors contribute to slow internet adoption in Omani private sector organizations' [2010] *Communications of the IBIMA* 1.

⁵⁴⁰ Yeolib Kim and Robert A. Peterson, 'A Meta-analysis of Online Trust Relationships in E-commerce' (2017) 38 *Journal of Interactive Marketing* 44.

⁵⁴¹ Khamis Al-Gharbi and Rafi Ashrafi, 'Factors contribute to slow internet adoption in Omani private sector organizations' [2010] *Communications of the IBIMA* 1.

seller and pay without having to worry about threats to the integrity of their personal information.⁵⁴²

8.2.1 Consumer knowledge and awareness

This research reveals that Omani consumers' attitude to sharing their personal information online is affected by their lack of knowledge and awareness of electronic commerce activities. This is a major obstacle to the development of the electronic commerce sector in Oman and there should be a campaign to raise social awareness of the benefits of this kind of trade and to encourage individuals and firms to switch from traditional to online markets.⁵⁴³ The Omani vision 2020 asserts the importance of knowledge and awareness among Omanis to enable them to interact digitally, access the internet and use electronic services efficiently and safely.⁵⁴⁴ This means that, when shopping online, consumers should be aware of the benefits of electronic commerce and, at the same time, know how to verify that a website is secure and safe. The lack of consumer awareness of the benefits of electronic commerce makes it hard to address consumer concerns positively; most consumers by default take a negative stance to electronic commerce. Some are more radical still and argue against trading online.⁵⁴⁵ This is because in traditional markets, participants are used to cash exchanges and dealing with individuals they know personally or by reputation. By contrast, electronic commerce is viewed with suspicion by some Omani consumers: it is mysterious,

⁵⁴² Rakesh Belwal, Rahima Al Shibli and Shweta Belwal, 'Consumer protection and electronic commerce in the Sultanate of Oman' (2020) 19(1) *Journal of Information, Communication and Ethics in Society* 38

⁵⁴³ Syed Ahmed Abdel Khaleq, *E-Commerce and Globalization* (Arab Organization for Administrative Development Publications 2008) 90.

⁵⁴⁴ 'Ministry Of Transport, Communications and Information Technology' (*Ita.gov.om*, 2013) <<https://ita.gov.om/ITAPortal/MediaCenter/NewsDetail.aspx?NID=552>> accessed 18 August 2021.

⁵⁴⁵ Hans-W Micklitz and others, *Cases, materials and text on consumer law* (Hart 2010).

impersonal, overly speedy, and purchases take place without inspecting, touching or checking the commodities on sale.⁵⁴⁶ This prompts consumers to either avoid what they do not know or take a hostile attitude. It is imperative, therefore, that governments, companies and consumers collaborate to dispel the mystery, raise awareness of the importance of this new technology and demonstrate its benefits. Despite the claims that one out of four people in the world is able to communicate in English “to a useful level”,⁵⁴⁷ this research finds that language is a major obstacle to the implementation of electronic commerce in Oman (see subsections 2.14.2, 7.2.2, 7.2.3). This is because the English language is dominant in technological development and cyberspace alongside Spanish, Portuguese, Russian, German, and Mandarin.⁵⁴⁸ By contrast, Arabic is a somewhat marginalized language.⁵⁴⁹ However, language might not be a problem in the future because English is the second language in Oman and students now start learning English from primary school age. This highlights the importance of supporting Arabic by localizing retail websites. This not only enhances accessibility but also mitigates fears of misunderstanding or deceit in online retail contexts. Furthermore, legislators

⁵⁴⁶ Noura Said and others, ‘Factors influencing customer satisfaction of online shopping in Oman: Youth perspective’ (2018) 6(2) *Humanities and Social Science Reviews* 64.

⁵⁴⁷ David Crystal, *English as A Global Language* (2nd edn., Stuttgart: Klett 2012) 69; See also: Mohammad Salah, Shaidah Jusoh and Muhanna Muhanna, ‘The Development of Usability Heuristics for Arabic M-Commerce Applications’ (Jordan International Joint Conference on Electrical Engineering and Information Technology, The Institute of Electrical and Electronical Engineers on 2019) <<https://ur.booksc.eu/book/76727556/6661c7>> accessed on 16 September 2021

⁵⁴⁸ Peter Trudgill and Jean Hannah, *International English: A guide to varieties of English around the world* (Routledge 2017).

⁵⁴⁹ Mohammad Salah, Shaidah Jusoh and Muhanna Muhanna, ‘The Development of Usability Heuristics for Arabic M-Commerce Applications’ (Jordan International Joint Conference on Electrical Engineering and Information Technology, The Institute of Electrical and Electronical Engineers on 2019) <<https://ur.booksc.eu/book/76727556/6661c7>> accessed on 16 September 2021

should take steps to make it compulsory for Omani retail websites to localize into Arabic.⁵⁵⁰

There is a precedent for this in the Arabic-speaking world: Algerian legislators enacted laws which oblige manufacturers to print mandatory data on household products in Arabic⁵⁵¹. In relation to this, a finding of this research is that lack of knowledge and awareness of electronic commerce is influenced by consumers' education level. This ignorance will be compounded if local websites in Oman are not localized into Arabic and require consumers to know another language. In this respect, this research is consistent with the Oman vision 2020 which focuses on expanding Omani citizens' opportunities to use the internet consciously and tackle this and other obstacles to electronic commerce implementation in Oman.⁵⁵²

8.2.2 Age of consumers

This research investigated whether the age of Omani consumers affects their concern about their personal information. It revealed that younger Oman citizens, in comparison with the previous generation, are less worried about purchasing and sharing their information online. This confirms the findings of previous studies that observe this correlation. For example, a survey conducted by the information technology authority in Oman in December 2020 demonstrates that full-time students are 69% more likely to perform activities such as purchasing or goods and services online.⁵⁵³ Said et al argue

⁵⁵⁰ Ibid.

⁵⁵¹ "Executive Decree No. 90/366 article 4" Consumption goods "Executive Decree No. 90/367 article 5" Slaughtered poultry "Article 13 of the joint Ministerial Decree in 2/07/1995 which was amended by in 26/05/2001".

⁵⁵² 'Ministry of Transport, Communications and Information Technology' (*Ita.gov.om*, 2020) <https://mtcit.gov.om/ITAPortal/eOman/Strategic_Pillars.aspx > accessed 18 August 2021

⁵⁵³ The Ministry of Transport, Communications and Information Technology, 'Report on the Results of Information and Communication Technologies (ICTs) Access and Usage by Households and Individuals 2020' (*mtc.gov.om*, 2020)

that younger generations of Omanis generally lead much more internet-mediated lives than their older compatriots. Although the Omani market is small, younger Omanis take advantage of the internet's ease of access to shop online and find it convenient and useful.⁵⁵⁴ Boise et al emphasize that older people are more concerned about the security of their personal information and their concern increases over time; by contrast, younger age groups are not so concerned.⁵⁵⁵

8.2.3 Education level

This research finds that education strategies help to overcome computer illiteracy among younger generations. As revealed here, the higher the level of individuals' education, the keener and better able they are to participate in electronic commerce because they are less inhibited by anxieties about their private information. However, the relative lack of competent and qualified personnel to tackle this issue in the communications field constitutes an obstacle to the development of the electronic commerce sector in Oman. Human resources play a vital role in the development of the electronic commerce sector because technically skilled individuals can innovate skills and new methods. Low levels of IT literacy might account for the fact that no such workforce exists and for the fact that the importance of electronic commerce is not recognized to a great extent.

By contrast, communities with high levels of IT literacy are more likely to recognize the importance of electronic commerce and its impacts on their daily lives. The possible

<<https://mtc.gov.om/ITAPortal/Data/English/DocLibrary/2020819132045427/ICT%20HH%20Survey%202020%20Final%20Report%20Eng%20v2.pdf> > accessed 16 September 2021.

⁵⁵⁴ Noura Said and others, 'Factors influencing customer satisfaction of online shopping in Oman: Youth perspective' (2018) 6(2) *Humanities and Social Science Reviews* 64.

⁵⁵⁵ Linda Boise and others, 'Willingness of older adults to share data and privacy concerns after exposure to unobtrusive in-home monitoring' (2013) 11(3) *Gerontechnology* 1.

link in this situation is that there is a connection and positive relationship between the levels of education in Oman and the development of electronic commerce. In this regard, there is a new meaning of illiteracy at the current time. The illiterate subject is not a person who does not know how to read or write; rather they do not know how to use the new technology because illiteracy denotes ignorance of a particular subject or activity.⁵⁵⁶ Therefore, if Oman wants to benefit from the use of modern technology in electronic commerce, it should embark upon a modernization of its education systems such that they keep pace with the development and needs of the current era.⁵⁵⁷ It is clear that, if any society wishes to move towards building communities that are equipped to face the challenge of developments in the fields of communications, technology and informatics, then it must support human capital and, to this end, build strong foundations in education in general and technologically-oriented education in particular. This is because it is only through community-based solutions that modern education ensures that the development of technology and its application in the productive sphere is leveraged for the benefit of society as a whole. On this basis, the skilled worker and the expert will maximize their levels of productivity and output.⁵⁵⁸ For this reason, academic curricula in Oman should be reformed such that the advantages of new technologies in general and electronic commerce in particular become part and parcel of the national common sense. The Oman vision strategy sets out the government's plan to transform Oman into a digital society in two ways: (1) providing IT education and

⁵⁵⁶ Oxford English and Spanish Dictionary, Synonyms, and Spanish to English Translator <<https://www.lexico.com/definition/illiterate>> accessed 25/8/2021.

⁵⁵⁷ Syed Ahmed Abdel Khaleq, *E-Commerce and Globalization* (Arab Organization for Administrative Development Publications 2008) 90.

⁵⁵⁸ Abdullah Saleh Alqahtani, Robert Goodwin and Denise de Vries, 'Cultural factors influencing e-commerce usability in Saudi Arabia' (2018) 5(6) *International Journal of Advanced and Applied Sciences* 1.

training for citizens; and (2) digitalizing the delivery of government services and building electronic commerce infrastructure for local enterprise. Plans of this kind, in whichever country they are devised, are successful if the implementation is gradual, systematic and respectful of local cultural tradition. This is because every country has unique social, cultural and demographic characteristics. If the Omani government's vision is successful in making its citizens' lives more digitalized and network-mediated, this will go a long way increasing their confidence in new technology and allaying their fears of sharing personal information in online retail contexts.

8.2.4 Confidence and Experience

The emergence and spread of electronic commerce put an end to user anonymity on the internet by making online payments inevitable. The new, networked payment systems that this has given rise to have increased the speed of transactions and dramatically reduced the need to carry hard currency. However, this has also given rise to consumers' anxiety about violations to their privacy. This is documented in this research and the existing research literature and is related to a relative lack of experience of shopping online, which influences customer satisfaction in the electronic commerce sector.⁵⁵⁹ Experience of online shopping plays an important training role: experienced customers gain knowledge of pricing, website reliability, and the security of payment systems.⁵⁶⁰ Alleviating consumers' concerns about data protection in electronic commerce has been a crucial part of this because online transactions cannot

⁵⁵⁹ Haslinda Musa and others, 'Factors Affecting Customer Satisfaction towards Online Shopping' (The 3rd International Conference on Technology Management and Technopreneurship (ICTMT), Technical University of Malaysia Malacca, August 2015) <https://www.researchgate.net/publication/281114238_Factors_Affecting_Customer_Satisfacti_on_towards_Online_Shopping> accessed on 16 September 2021.

⁵⁶⁰ Matea Matic and Katija Vojvodic, 'Customer-Perceived Insecurity of Online Shopping Environment' (2014) 4(1) *International Review of Management and Marketing* 59.

take place unless consumers grant access to their personal information to retailers. For this to happen, consumers need a guarantee of privacy and security of payment. In other words, they must feel confident and protected when shopping online to encourage them to enter into repeated electronic commerce transactions. Protection policies and security systems that are put in place to deter hackers will enhance the electronic commerce sector and more electronic transactions will be conducted without fear of theft or fraud. Concern about the integrity of personal information is higher among older consumers because they lack the experience in using computers and the internet which is typical among their younger counterparts. This why the Oman vision 2020 stresses the importance of developing and implementing a national IT training programme for both citizens and employees to give them the knowledge and confidence to shop online. If this is successful, Omani citizens will be more confident in using electronic government services and shopping online. As a consequence, Omani citizens will become confident, daily users of the internet⁵⁶¹ who are comfortable with shopping online and sharing their personal information.

8.3 Company readiness to practice EC

This research shows that Omani companies share responsibility with the government for improving consumers' willingness to engage in electronic commerce activities and, as a consequence, alleviating their concerns about sharing their personal information. Research findings confirm the impact of companies' readiness to practice electronic commerce on consumers' attitudes toward shopping and sharing personal information online.

⁵⁶¹ Rakesh Belwal, Rahima Al Shibli and Shweta Belwal, 'Consumer protection and electronic commerce in the Sultanate of Oman' (2020) 19(1) *Journal of Information, Communication and Ethics in Society* 38.

8.3.1 Consumer trust

This is a challenge given the extent to which Omani consumers do not trust local online retailers because of their concerns about security, privacy and payment.⁵⁶² One symptom of this concern is that Omani banks have imposed upper limits on the amount of money that may be withdrawn from current accounts to settle online transactions in order to assuage consumer anxiety about using debit cards online. It is essential to take into consideration that online transactions for some communities are a quite novel form of payment that inspire caution and suspicion. One sign that this is the case in Oman is the fact local retail websites do not offer any user interface affordance for settling payments online; on the contrary, they operate cash-on-delivery systems in order to attract customers who do not trust systems such as PayPal.⁵⁶³ Clearly, it is very important that legislators address this by enacting a set of laws to guarantee consumer protection in the context of electronic transactions. Moreover, it is an oversight on the part of legislators they have yet to amend the electronic transactions law of 2008 in a context of rapid growth in Oman's ICT sector. In addition, Oman must set up an electronic payment portal to secure electronic payments. In tandem with this, the judiciary and legal profession must develop mechanisms to adjudicate online disputes. This will require a complete set of laws and must satisfy consumers' concerns about shopping online. In the context of electronic commerce, the consumer has a special status as the weaker party in the exchange relationship which makes it imperative for legislators to press their thumbs down on the scales in favour of consumers as they go

⁵⁶² Rakesh Belwal, Rahima Al Shibli and Shweta Belwal, 'Consumer protection and electronic commerce in the Sultanate of Oman' (2020) 19(1) *Journal of Information, Communication and Ethics in Society* 38.

⁵⁶³ Ahmad ALShatat, 'Factors affecting the adoption and usage of online services in Oman' (2017) 22(S7) *Journal of Internet Banking and Commerce* 1.

about the work of drafting regulations for online retail.⁵⁶⁴ In doing so, it is incumbent upon them to establish a fair distribution of power between consumers and retailers.⁵⁶⁵

8.3.2 Infrastructure

The Oman vision 2020 is mainly focused on developing and enhancing the IT infrastructure of Oman. However, it is a finding of this research that Oman and Omani companies are not fully prepared for electronic commerce activities. The 2019 Economist Intelligence Unit Report found that Oman ranked 55 out of 64 in the E-readiness rankings.⁵⁶⁶ Two key elements are clear:

1. The ICT strategy devised for the long-term major objective of building an informatics society is ineffective. In addition, Oman suffers from a history of strategic planning in this field which has been lacking in transparency, stability, and continuity.
2. Oman's national ICT infrastructure, such as it is, not adequate by contemporary standards and cannot serve as the basis for future technological development. Oman's current workforce also lacks the competencies required to build and maintain a new infrastructure capable of supporting electronic commerce and meeting the broader needs of the Oman vision 2020. This presents a formidable challenge to the future development of electronic commerce.⁵⁶⁷

⁵⁶⁴ Emmanuela Truli, 'Relative Dominance and the Protection of the Weaker Party: Enforcing the Economic Dependence Provisions and the Example of Greece' (2017) 8(9) *Journal of European Competition Law and Practice* 579.

⁵⁶⁵ Joakim S. T. Oren, 'International Jurisdiction over Consumer Contracts in e-Europe' (2003) 52(3) *The International and Comparative Law Quarterly* 665.

⁵⁶⁶ The Economist Intelligence Unit, 'The Network Readiness Index 2019' (*Portulans Institute*, 2019) <<https://networkreadinessindex.org/wp-content/uploads/2020/03/The-Network-Readiness-Index-2019-New-version-March-2020.pdf>> accessed 18 August 2021.

⁵⁶⁷ Syed Ahmed Abdel Khaleq, *E-Commerce and Globalization* (Arab Organization for Administrative Development Publications 2008).

There are only three active telecommunications companies in Oman: the Oman Telecommunications Company, Awasr, and the Omani Qatari Telecommunications Company now known commercially as Ooredoo. However, the coverage offered by these companies is less than society wide. Moreover, the prices they charge for voice calls, data, and access to the network are the highest in the GCC region.⁵⁶⁸ To make matters worse, many governates and provinces in Oman fall outside the scope of coverage and, as a result, ICT provision in Oman is constantly bedevilled by interruptions. All ICT services in Oman are centralized in the capital; regions outside the metropolis have to tolerate sub-standard services. This became painfully obvious when the Omani government decided to implement distance teaching during the Coronavirus pandemic. Poor connectivity and sluggish government websites made remote learning a frustrating endeavour for teachers and learners alike.⁵⁶⁹ Despite government support in the form of reduced corporate tax rates, especially for Omantel in which the government is the majority shareholder, telecoms companies did not invest profits to upgrade network infrastructure and reduce costs. Neither is there genuine market competition since companies use and lease lines from state-controlled Omantel. Despite reassurances by the Minister of Transport and Communication and Information Technology that internet prices are not exorbitant, the reality is that the price of internet access in Oman is the highest in the Gulf region.⁵⁷⁰ This research explored how the rate of internet penetration in Oman low by international standards negatively affects the

⁵⁶⁸ ‘Campaign to boycott telecom firms gains traction in Oman’ (*Gulfnews*, 2016) <<https://gulfnews.com/world/gulf/oman/campaign-to-boycott-telecom-firms-gains-traction-in-oman-1.1908883>> accessed 24 August 2021.

⁵⁶⁹ Abdalellah Mohmmmed and others, ‘Emergency remote teaching during Coronavirus pandemic: the current trend and future directive at Middle East College Oman’ (2020) 5(3) *Innovative Infrastructure Solutions* 1.

⁵⁷⁰ ‘Campaign to boycott telecom firms gains traction in Oman’ (*Gulfnews*, 2016) <<https://gulfnews.com/world/gulf/oman/campaign-to-boycott-telecom-firms-gains-traction-in-oman-1.1908883>> accessed 24 August 2021.

willingness of consumers and companies to participate in online retail. The simple truth of the matter is that the high price of internet access deters both consumers and companies from online retail. The current study argues that citizens' reluctance is because of the lack of competition between Internet Service Providers (ISPs) in Oman. This is consistent with the fact that electronic commerce in Oman remains nascent and Oman lags significantly behind neighbours such as the United Arab Emirates which ranked sixth globally in the electronic commerce sector in 2014.⁵⁷¹

Another finding of this research is that a symptom of companies' lack of e-readiness is their failure to localize their websites to Arabic which renders them inaccessible to non-English speakers. The Oman vision 2020 emphasized that one of the main goals of the government is to develop and extend existing standards and to move towards more standardization in its technical architecture and infrastructures. However, this study discovered that service delivery made difficult by the fact that buildings are not labelled and numbered accurately in Oman, especially in rural areas is one of the factors that stands in the way of electronic commerce development. For this reason and as this research demonstrates, business and government need to collaborate to create an appropriate environment for practicing electronic commerce in Oman. However, as this research also shows, creating an up to date infrastructure sector and providing adequate capacity to deliver services will help Omani businesses to participate in electronic commerce. To achieve electronic readiness, genuinely competitive ISP and service delivery provider markets are necessary to extend internet penetration and make service delivery ubiquitous. This will give consumers the confidence to shop online free of any fears that their privacy will be compromised or that goods will not be delivered. Above

⁵⁷¹ 'Oman – eCommerce' (*Export. Gov*, 20 November 2018) <www.export.gov/article?id=Oman-eCommerce> accessed 18 August 2021.

all, Omani companies need reassurances that investment in electronic commerce services will see returns; otherwise, such investment is unlikely to be forthcoming.

8.3.3 Awareness among Omani Companies

This research shows that awareness among Oman companies about the importance of electronic commerce is a significant factor in encouraging them to implement electronic commerce services and fulfilling their half of the bargain with government. However, Omani companies remain unconvinced of the benefits of electronic commerce.⁵⁷² Alamki argues that awareness issues among Omani companies are critical factors affecting the success of the ICT industry in a well-established market.⁵⁷³ Awareness also determines the extent to which Omani companies are capable of transitioning from traditional trade to electronic commerce. Despite the development witnessed by Oman in terms of ICT, there was little if any advance in the electronic commerce sector in terms of the adoption by Omani companies of this technology for retail. A 2017 study finds that awareness is an important factor affecting the development of electronic commerce applications in the banking sector in Oman.⁵⁷⁴ Another study makes the case that, although companies are aware of the general benefits of ICT, greater awareness is needed created of the benefits of using technologies which reduce cycle time and improve visibility in the supply chain.⁵⁷⁵ This research finds that companies might yield to customer demand and set up a website, but a single website barely suffices to meet

⁵⁷² Khamis Al-Gharbi and Rafi Ashrafi, 'Factors contribute to slow internet adoption in Omani private sector organizations' [2010] Communications of the IBIMA 1.

⁵⁷³ Zamzam Alamki, 'The Influence of Culture on the Successful Implementation of ICT Projects in Omani E-government' (DPhil thesis, Trinity College Dublin 2018).

⁵⁷⁴ Ahmad ALShatat, 'Factors affecting the adoption and usage of online services in Oman' (2017) 22(s7) Journal of Internet Banking and commerce 1.

⁵⁷⁵ Ashu Sharma and Preeti Khanna, 'The relevance of Adopting Emerging Technologies in Outbound Supply Chain : New Paradigm for Cement Industry' (2020) 13(2) Operations and Supply Chain Management 210.

the requirements of consumers in the context of online retail. An initiative of this kind is not based on calculations of strategic interest with clearly identified objectives. That is to say, companies must be aware of the purpose of setting up specialized websites and must design and adhere to a systematic marketing scheme when doing so if they are to make a success of electronic commerce. One of the main strategic pillars of the Oman vision is to promote awareness of the benefits of digitalization across Omani society. If this is successful, it will have a significant positive impact on the attitude of Omani companies in terms of meeting the demands of practicing electronic commerce and this will give consumers confidence when dealing with such companies.

8.3.4 E-government programme

This research finds that collaboration between companies and the Omani government is required to give consumers the confidence to share their personal information online. For instance, this collaboration take place in the implementation of an e-government programme in Oman.

The United Nations E-government Survey is published every two years and the 2020 edition ranks Oman 50th out of 193 member-state countries and 24th globally in its online services index. This a very positive sign of the government's progress in developing its services.⁵⁷⁶

The government published the Oman vision in 2003 and activated it in 2010. Because of an inadequate ICT infrastructure and the novelty of online government services, citizens still have concerns about shopping and sharing personal information online. However, this research finds that the Omani government has a role to play in ensuring that the

⁵⁷⁶ Public Institutions' Department of Economic and Social affairs (USA) <[https://publicadministration.un.org/egovkb/Portals/egovkb/Documents/un/2020-Survey/2020%20UN%20E-Government%20Survey%20\(Full%20Report\).pdf](https://publicadministration.un.org/egovkb/Portals/egovkb/Documents/un/2020-Survey/2020%20UN%20E-Government%20Survey%20(Full%20Report).pdf) > accessed 18 August 2021.

Oman vision strategy is implemented to a high standard and that it not only provides electronic government services but also serves the needs of electronic commerce.

The Oman vision underscores the importance normalizing the use of ICT in all workplaces and communities and, to this end, commits the government to giving a free laptop to some university students.⁵⁷⁷ This will boost computer usage and IT literacy. Moreover, the government has established Community Technology Learning Centres (CTLCs) throughout Oman to provide ICT training for free or at minimal cost to citizens. This has been successful in boosting IT literacy and disseminating computer use. As a consequence, the use smartphones, tablets and other networked devices is now widespread in Oman and comparable to the global norm.⁵⁷⁸ Telecoms companies now routinely offer special deals on smart phones and tablets through which consumers can buy devices at below the market prices in exchange for subscribing to specific services; this has made access to ICT relatively easy for Omani citizens. Although the price of smartphones in Oman is high compared to other countries, average income levels mean

⁵⁷⁷ In September 2020, Oman's Sultan Haitham bin Tarik issued decrees granting free computers to the following: every family in receipt of social security; every family or with one or more children enrolled at school; and all students enrolling at university from families in receipt of social security. He also bore part of the costs for university students in their first academic year and for teachers graduating from the Civil Service Employees Training Project with the explicit aim of supporting their participation in building Oman's digital society.

<<https://www.thenationalnews.com/world/gcc/oman-s-sultan-haitham-orders-free-laptops-for-new-students-1.1068368>> accessed on 21 October 2020.

⁵⁷⁸ According to the UN's Broadband Commission, by 2025 internet penetration should reach: 75% worldwide; 65% in developing countries; and 35% in the least developed countries. By the same stage, 40% of the world's population should be using digital financial services as the mobile broadband used in smartphones and tablets is currently one of the fastest technologies in human history. Over the last 10 years, the percentage of internet users rose from 46% to 80%, the percentage of broadband users rose from 15% to 75%, while the percentage of household users increased from 45.1% to 78.2%.

See the report of the UN Broadband Commission here:

<<https://www.broadbandcommission.org/advocacy-targets/3-universal-broadband/>> accessed on 21/10/2020.

that most individuals can afford one. A survey of Oman's Information Technology Authority published in December 2020 reported a slight decrease in the rate of household ownership of smartphones from 96% to 95%.⁵⁷⁹ If the e-government programme is implemented successfully, businesses will be encouraged to participate in electronic commerce and foster the confidence of consumers to shop online.

8.4 Government Response

Together with companies increasing consumers' trust in electronic commerce, It is a finding of the research that, in common with companies, the government also has an important role to play in boosting consumers' willingness to purchase and share their personal information online.

8.4.1 Legal environment

This research reveals that the development of electronic commerce and the implementation of electronic government require a legal framework to regulate all matters related to electronic commercial transactions. This is consistent with the Omani vision⁵⁸⁰ that cites the incomplete nature of the body of law concerning electronic commerce as a major obstacle to its development in Oman. There is, therefore, an

⁵⁷⁹ The study also reported an increase in digital literacy: 61% of government employees now have information technology and communication skills; 66% of computers in use in government authorities are networked; and over 90% of government institutions have fixed broadband.

The telecommunications sector also witnessed a slight decrease in the proportion of mobile phone internet subscribers from 95% in 2019 to 94%. In addition, since the launch of the National Personal Computer Initiative, more than 90,000 personal computers and more than 72,000 internet modems have been provided free of charge to families of students and teachers. <https://www.mtc.gov.om/ITAPortal/eOman/Strategic_Pillars.aspx> accessed 20 October 2020.

⁵⁸⁰ 'Oman Vision 2040' (2040.om, 2020) <<https://www.2040.om/en/>> accessed 19 November 2020.

urgent need for the Omani government to enact an appropriate set of laws to encourage consumers to participate confidently in electronic commerce.⁵⁸¹

As Tovi and Muthama argue, the combination of a lack of clarity in the law and internet security threats make consumers in developing countries more concerned about their personal information compared with their counterparts in developed countries where privacy matters are well regulated. This concern is a major reason why developing countries struggle to leverage new technologies for the purposes of economic development.⁵⁸² This is consistent with the Oman vision's calls for the enactment of regulations to govern new technology-driven initiatives, such as electronic commerce and electronic government, which require that the public authorities legislatively proactive. This bears out the empirical work of ALShatat who finds that one of the main obstacles to the development of Oman's electronic commerce sector, especially mobile banking, is the lack of a legislative framework.⁵⁸³

What is specifically needed is a body of laws to regulate electronic commerce based on the Oman vision. For example, both companies and consumers need the protection of an electronic signatures law when dealing with electronic files and documents; in its absence they fear fraud and theft.

⁵⁸¹ Rakesh Belwal, Rahima Al Shibli and Shweta Belwal, 'Consumer protection and electronic commerce in the Sultanate of Oman' (2020) 19(1) *Journal of Information, Communication and Ethics in Society* 38.

⁵⁸² Muli David Tovi and Mutua Nicholas Muthama, 'Addressing the challenges of data protection in developing countries' (2013) 1(2) *European Journal of Computer Science and Information Technology* 1.

⁵⁸³ Ahmad ALShatat, 'Factors affecting the adoption and usage of online services in Oman' (2017) 22(s7) *Journal of Internet Banking and commerce* 1.

Regarding electronic signatures, articles 8⁵⁸⁴ and 9⁵⁸⁵ of Oman's Electronic Transactions Law No. (69/2008) do make some provision for them which means that some aspects of electronic transactions are subject to regulation. This led, as the Oman vision points out, to the launch in 2013 of the National Digital Certification Centre which works under the aegis of the Information Technology Authority (ITA) and is responsible for determining the requirements for issuing digital certificates and the conditions for dealing with electronic signatures as a class of personal information requiring protection from misuse. However, the Omani legislators failed distinguish between formal and informal writing and between official and customary documents. In addition, if electronic messages and electronic documents have a different impact on electronic transactions, then the legislation should spell out the implications of this difference.

In addition, this study finds that the lack of a personal data protection law in Oman has a significant negative effect on the electronic commerce sector in that it undermines consumers' willingness to shop and share their personal data online. This bears out observations made in the literature review about companies' planning and strategizing

⁵⁸⁴ Article 8: “ (1) Where any law requires the retention of any document or record or information or data for any reason, then such retention shall be ascertained by retaining that document or record or information or data in electronic form if the following conditions are satisfied :

(a) The document or record or information or data are retained electronically in the form they were originated or sent or received or in a form capable of proving accurately that the document or record or information or data originated or sent or received in its original form.

(b) The document or record or information or data shall remain retained in a way to render it accessible, usable and retrievable for subsequent reference.

(c) The document or record or information or data shall be retained in a way to enable the identification of their origin and destination and the date and time when they were sent or received”.

⁵⁸⁵ Article 9: “Where the Law requires the writing of any document or record or transaction or information or statement or provides for consequences otherwise, then that requirement of writing is met by submission of any of the above in electronic form if the conditions provided for in the previous article are observed”.

to store and use personal data.⁵⁸⁶ On the issue of privacy infringement, however, article 53⁵⁸⁷ of the electronic transactions law No. (69/2008) stipulates that any person who breaches this law will be penalized with a fine amounting to RO 1500 (1500 Omani Riyals). Since this article regulates both the electronic commerce and electronic government sectors in Oman, it can be said that the success of electronic government affects the electronic commerce sector by encouraging both consumers and companies to conduct transactions online. This bears out the empirical work of ALShatat who underscores the important role played by the Omani government in issuing appropriate laws to regulate and enhance the electronic commerce and electronic government sectors.⁵⁸⁸ If the Omani government does legislate appropriately, this will increase the number of specialists in electronic commerce for example, lawyers and judges who will have expertise in electronic commerce issues and this will boost the confidence of both companies and consumers to conduct online transactions. Regarding the legal status of electronic commerce in Oman, it is imperative that the Ministry of National Economy, the Ministry of Commerce and Industry, the Information Technology Authority (ITA) and the Ministry of Justice and Legal Affairs should collaborate. At present, the areas of

⁵⁸⁶ Peter Verhoef and others, 'Digital transformation: A multidisciplinary reflection and research agenda' (2021) 122 *Journal of Business Research* 889.

⁵⁸⁷ Without prejudice to any hard punishment provided for by the Omani Penal Law, or any other Law a person shall be punished with imprisonment for a period not exceeding one year and with a fine not exceeding RO 1500 (one thousand and five hundred Oman Riyals) or with one of the two punishments: 1. Any person who makes or possesses or obtains information system or program for originating an electronic signature without the explicit consent of the owner of the signature. 2. Any owner of a ciphering key who refuses to hand it over to the employee specified by the competent authority after disclosing his identity. 3. Any authentication service provider or any one of his staff who refuses to provide assistance to the competent authority or to any of its employees in controlling or supervising or inspecting a computer system or data system or any other materials related to the computer at the office of the authentication service provider.

⁵⁸⁸ Ahmad ALShatat, 'Factors affecting the adoption and usage of online services in Oman' (2017) 22(s7) *Journal of Internet Banking and commerce* 1.

law that most urgently require the attention and energy of legislators are data protection, electronic commerce, and electronic signatures. The government is responsible for drafting laws in these areas and passing them on to the Ministry of Justice and Legal Affairs for revision before dispatching them to Parliament (*Majlis Al-Shura*) and the State Council or (*Majlis Al-Doula*). It is clear from this that the government's legislative initiative is crucial to promote both electronic commerce and electronic government. The last step in this legislative process is for the Sultan of Oman to sign the draft laws and for the Ministry of Justice and Legal Affairs to publish them in the official gazette. The effect of enacting relevant laws in electronic commerce will be reflected in the attitude of lawyers and judges as they will be more knowledgeable when dealing with privacy issues in the context of electronic commerce transactions. In addition, the legal system in Oman is based rests on a civil basis, which means that laws must be codified in order to implement the law and entities can be sued if there is any law is breached. It is clear from the research findings that the Omani government must address consumers' privacy concerns by enacting laws to regulate electronic commerce. In the absence of such laws, these privacy concerns will have an increasingly negative impact on the growth of electronic commerce. They are grounded in fears of fraud, theft and the capacity of new technology to accumulate and monetize personal data.⁵⁸⁹ These concerns may also be exacerbated by the failure to effectively implement and regulate electronic government services. They undermine the willingness to shop online as individuals feel unprotected as consumers worry that their personal investment will be disclosed to unknown parties. This leaves consumers in an ambiguous and complex place when shopping online.

⁵⁸⁹ Jung Wan lee, 'Big data strategies for government, society and policy-making' (2020) 7(7) *The Journal of Asian Finance, Economics, and Business* 475.

However, it should be mentioned that, despite the lack of privacy legislation, there remains a right to privacy under *sharia* or Islamic law which the Omani constitution considers the primary source of law. Moreover, the right of privacy is enshrined in the Omani constitution No. (6/2021) in articles 32⁵⁹⁰, 33⁵⁹¹ and 35⁵⁹².

These articles assert clearly that the right of privacy must be protected as a fundamental right of human. As well as the constitution, *sharia* law and the Declaration of Human Rights also protect the right to privacy, and these protections may go some way to alleviating individuals' anxiety about online violations of privacy. Clearly, the government and the companies vested in electronic commerce have key roles in ensuring the protection of personal data in online retail contexts. If the Omani government takes positive legislative and technological steps to reform the electronic commerce sector in terms of personal data protection, then a major obstacle to the future health and growth of electronic commerce in Oman will be overcome. Together with electronic payment systems, these reforms are the main prerequisites for giving companies and consumers the trust and confidence to participate in electronic commerce.

The following chapter will address the research questions and discuss proposals for legislative reform in Oman. Finally, concluding remarks will be made about the contributions and limitations of the thesis, and possible future directions for research into legal frameworks for electronic commerce.

⁵⁹⁰ Article 32: It is not permissible to conduct any medical or scientific experiment on any human being without his or her free consent.

⁵⁹¹ Article 33: Residences are inviolable. It is not permissible to enter them without the permission of their residents, except in the cases specified by the Law and in the manner stipulated therein.

⁵⁹² Article 35: The freedom of correspondence by post, telegraph, telephone conversations, and other means of communication is protected and its confidentiality is guaranteed. It is not permissible to monitor, search, disclose the confidentiality of, delay, or confiscate the same, except in cases specified by the Law and in accordance with the procedures stated therein.

Chapter 9 Conclusion

9.1 Introduction

As the discussion of the results in the previous chapter makes clear, shared responsibility between the government and the private sector for the development of the infrastructure sector will help the development of electronic commerce in Oman and, consequently, provide consumers with a secure and trustworthy environment for online retail.

This can happen through the development of: the legal environment in which the telecommunications sector operates; delivery services; and a numbering system for streets and houses. Likewise, the private sector needs modern electronic systems to ensure the success of the electronic services they provide and to support consumers with a protection system that encourages them to share their data when shopping online with complete safety and confidence. In addition, internet access should be provided in most homes in Oman, at competitive prices. This is one aspect of the shared responsibility between government and the private sector and can be achieved, for example, by granting companies privileges such as exemption from bank charges if consumers are afforded internet services at competitive prices. If this succeeds, consumers in Oman will have the confidence to surrender personal data in online retail contexts. The roles of the main stakeholders (consumers, companies and government) in relation to electronic transactions can be summarized as follows:

1. The role of the government is to enact appropriate laws, educate the public regarding the protection of personal data.

2. The role of companies is to provide a secure online retail environment that safeguards the privacy of consumers' personal data and to educate consumers in the various ways in which they can protect themselves online.

3. The role of the consumer is to take responsibility for protecting their personal data and to learn to use the tools used to expedite electronic transactions.

It should also be emphasized that the responsibility of the state for developing the electronic commerce sector in Oman is particularly onerous because of its unique capacities: to enact laws, to raise levels of awareness among companies and consumers alike, to sign international agreements and to grant select privileges to private sector actors. From this it is clear that, if Omani consumers are to shop online confidently and securely, the private sector is dependent upon the government, and consumers are dependent upon both the government and the private sector. In the following, the research question and sub questions will be addressed. In addition, proposals for reforming the current Electronic Transactions Law No. (69/2008) will be introduced. Finally, concluding commentary will be made on the contribution of the research and possible avenues of future research.

9.2 Answers to the research questions

The main objective of the current research was to explore the effects of privacy regulations on the development of electronic commerce in Oman. Another objective of this research was to explore why and to what extent privacy concerns are an obstacle to the development of electronic commerce in Oman. The method adopted by the researcher to answer these questions was to explore the obstacles facing electronic commerce in Oman in general, and to assess whether privacy concerns are one of these obstacles or not. The results that emerged through investigating these questions were reached through an exploration of the current legal environment in Oman and an

assessment of the extent to which these laws succeed in reducing privacy concerns. These questions will be addressed in turn.

- **The first question:** Do data protection concerns in Oman impede the development of electronic commerce?

This research revealed that privacy in online contexts is one of the main preoccupations of consumers and makes them hesitant to make purchases online. That is to say, privacy is one of the critical elements determining the successful implementation of electronic commerce. In particular, it was highlighted that privacy is one of the main barriers to the development of electronic commerce in Oman. In addition, this research marshals evidence that privacy concerns are one of the main barriers to electronic commerce at an international as well as national level in Oman. This issue must be addressed, therefore, through international cooperation to strike a legal, economic, and technical balance between the interests of the main stakeholders in electronic transactions to mitigate the effects of privacy concerns on the development of electronic commerce.

- **Second question:** What are the further obstacles to the growth of electronic commerce in Oman?

This study identified other obstacles standing in the way of electronic commerce in Oman and these were explored in terms of their relationship to the privacy concerns when conducting electronic transactions. They are listed in the following table:

Factors	Justifications
Regulations	According to the current research, the lack of personal data protection laws in Oman hinders the growth of electronic commerce by making people unwilling to shop online and surrender their personal information. At present, Omani consumers feel unprotected when shopping online.

Factors	Justifications
Infrastructure	This research also demonstrates that the creation of an up-to-date infrastructure with adequate capacity to deliver services will help Omani businesses to participate in electronic commerce. To achieve electronic readiness, genuinely competitive Internet Service Provider and service delivery provider markets are necessary.
Consumer confidence and trust	This research found that alleviating consumer anxieties about privacy and winning consumer trust by regulating consumer-business relations are necessary conditions for the success of the electronic commerce sector. It has underscored that alleviating consumer anxiety about privacy by putting in place adequate security measures is key to successfully encouraging Omani consumers to shop online.
Internet penetration	The rate of internet penetration will also determine the extent to which electronic commerce can be adopted successfully. If the information and communication technology (ICT) sector of a country's economy is highly competitive, it will result in high service standards, a large potential client base, and promote the use of internet commerce. Therefore, it is essential to increase internet access and generalize service delivery.
Awareness of electronic commerce within companies	This research shows that awareness of the importance of electronic commerce on the part of Omani companies is a significant factor in encouraging them to implement electronic commerce services and fulfilling their half of the bargain with government. Companies must have a clear understanding of the objectives driving the establishment of specialized websites and must create and adhere to a systematic marketing plan when doing so if they are to make a success of electronic commerce.

Factors	Justifications
Education levels among electronic commerce consumers	This research finds that education strategies help to overcome computer illiteracy among younger generations. As revealed here, the higher the level of individuals' education, the keener and better able they are to participate in electronic commerce because they are less inhibited by anxieties about their private information.
Age of consumers	This research finds that younger consumers have also become highly habituated to networked computer use at school and university and, as a consequence, they are very knowledgeable about the internet. This means that they are relatively well placed to protect themselves when shopping online.
Language	This research finds that language is a major obstacle to the implementation of electronic commerce in Oman. This is because the English language is dominant in technological development and cyberspace alongside Spanish, Portuguese, Russian, German, and Mandarin. By contrast, Arabic is a somewhat marginalized language.
Consumer attitudes	Omani consumers' concerns about sharing their data are shaped by their attitudes to electronic commerce which, in turn, determine the extent to which they are willing to entrust their data to online retailers. Their perspective is influenced by the level of their awareness and knowledge of electronic commerce.
Readiness of businesses to practise e-commerce	It was found that if companies provide effective systems for electronic commerce services, this will allay consumer concerns about their personal information and motivate them to shop online. Therefore, companies have a responsibility for their own e-readiness which will enable them to support consumers with secure and professional platforms for online retail that protect the privacy of their personal data.

Factors	Justifications
Computer and internet literacy	This research finds that communities with high levels of IT literacy are more likely to recognize the importance of electronic commerce and its impacts on their daily lives. The possible link in this situation is that there is a connection and positive relationship between the levels of IT literacy in Oman and the development of electronic commerce.
Experience of electronic commerce	This research reveals that experience of online shopping plays an important training role: experienced consumers gain knowledge of pricing, website reliability, and the security of payment systems. The reason why consumers feel hesitant to provide their personal information, especially their name and bank account, is a lack of previous experience in conducting online transactions. They prefer, therefore, to buy directly from a traditional shop even if they appreciate the convenience of purchasing via the Internet.
E-government adoption	It was found that if an e-government platform is implemented successfully, businesses will be encouraged to participate in electronic commerce and foster the confidence of consumers to shop online. Accordingly, the success of e-government depends on the fulfillment of electronic commerce requirements, which will encourage consumers to share their personal information online. As citizens gradually adjust to using government services online, their awareness will grow in tandem with their participation in electronic commerce.

Table (8): Additional obstacles that hinder the implementation of electronic commerce in Oman

This research shows that there are other obstacles in addition to privacy concerns that stand in the way of implementing electronic commerce in Oman. In light of the above table, it is evident that these factors exacerbate consumers' privacy concerns when shopping online and undermine their willingness to visit and share their personal data with retail websites. This research also identified new factors that were not addressed in the research literature, for example, the impact of the lack of a clear system for numbering houses in Oman and the lack of a reliable, modern postal system. These two factors affect the development of electronic commerce because delays in the delivery of goods or services purchased over the Internet and instances of non-delivery or loss inspire consumer mistrust and hesitation.

- **The third question:** What are the current deficiencies in Omani regulations regarding privacy issues and the electronic commerce sector?

It was concluded that the Omani government aims to establish an integrated legislative regime to regulate privacy in online contexts. This was clear from its adoption of the Oman vision, the most important goal of which was to develop the electronic sector by developing and improving legislation and technological infrastructure. However, Omani legislators need to dedicate more time and effort to developing an integrated and appropriate legal structure to protect personal data on the Internet. The current legislative framework in Oman leaves many areas of privacy unregulated and this is a weakness that is responsible for exacerbating consumers' anxieties about privacy when shopping online. The following table shows the most significant deficiencies in the current legislative framework of Electronic Transactions Law No. (69/2008):

Deficiencies	Justifications
Lack of accurate definitions of personal data and electronic commerce	Such definitions will help to prevent electronic companies and the government from misusing personal data since the legal concepts are clear. The importance of setting down a clear definition of electronic commerce is that it makes it possible to verify whether electronic transactions are of a commercial nature or not.
Lack of a supervisory authority concerned with monitoring implementation safety	There is no specific authority to receive, approve or reject complaints regarding law enforcement or violations committed by data processors.
Lack of an independent national authority with the power to arbitrate on all requests submitted by persons responsible for the processing of personal data	On grounds of safety, a supervisory authority must be established to oversee the practical implementation of the provisions of the law and monitor any problems that arise from implementation or failure to implement the law.
Lack of clear general rules regarding unjust conditions in online retail contracts	The importance of clearly setting out such conditions in legislation is that it helps the judiciary to resolve disputes quickly and effectively without the need to use general principles of law.
The ambiguity of terms and conditions of harm	This may lead the judiciary to misinterpret the concept of harm, which is a complex concept, especially in cyberspace. As a result, key stakeholders will not be protected by clear standards when trading online.
The period of data preservation and erasure must be specified	It should be noted that the rights of deletion and retention must be restricted by conditions that consider the interest of the individual as well as the general public. Clarity on this issue will alleviate consumers' apprehension about electronic transactions, especially in instances that involve the surrender of personal data such as bank card numbers.
Lack of government electronic payment methods	The Omani government should normalize a national payment method. This method must be protected by a legal framework for the Internet payments system. This will help consumers and businesses to trade online with confidence.
Vague duties and responsibilities of subcontractors	Legal terms such as “subcontractor” should not be left to interpretation according to the general rules of law, but rather should be defined in detail and their legal implications should be spelled out. Omani legislators must put in place rules that guarantee the protection of data subjects in order to foster confidence in the safety and security of electronic transactions.

Deficiencies	Justifications
<p>Lack of legal protection for electronic commerce consumers</p>	<p>Omani lawmakers must grant electronic consumers the right to terminate a contract in the event that there is an error or ambiguity in the general specifications of the purchased commodity or service. Omani legislators should also be clear and transparent regarding the general conditions for displaying goods online and require retail websites to communicate consumer delivery dates in a clear and accurate fashion. It should be emphasized here that Omani legislators must explicitly specify all the conditions that retail websites must meet in offering goods or services</p>
<p>Lack of legal restrictions and conditions for promotional messages</p>	<p>It is important to prohibit the sending of electronic messages, such as spam or junk mail, without prior consent on the grounds that this is a violation of the right to privacy and constitutes illegal processing of personal data. This will ensure stakeholders' confidence as a prerequisite for the prosperity and development of electronic commerce in Oman.</p>

Table (9): deficiencies in the current legislative framework of Electronic Transactions Law No. (69/2008)

- The fourth question:** What perceptions do the main stakeholders have towards privacy regulation and what are the implications of these for the growth of electronic commerce?

In order to provide a practical answer to this sub-question, the researcher has adopted a practical methodology as set out in Chapter Five (Research Methodology). The analysis of the data collected using this methodology revealed several findings, the most important of which was that anxiety about privacy is the biggest obstacle to the development of electronic commerce in Oman. In addition, the research identified other factors: business readiness, infrastructure, and general awareness levels. These negatively impact companies' willingness to engage in electronic commerce. Other factors are related to the bureaucratic sluggishness of government in Oman, for example: the inability to develop a clear and effective

policy framework for electronic commerce; the failure to effectively digitalize systems through the adoption of secure electronic payment methods; the general absence of effective electronic services; and the failure to enact transparent laws and regulations that protect sellers and buyers online. A final set of factors are related to consumer privacy and the extent to which they affect consumers' willingness to engage in online transactions: age and levels of education, knowledge, awareness, and confidence. The conclusion reached was that the stakeholders in electronic commerce, namely consumers, companies, and the government, have a shared responsibility to develop and overcome the obstacles to electronic commerce in Oman. It was emphasized that these stakeholders should recognize that the prevailing apprehension about internet privacy is one of the main obstacles to the development of the electronic commerce sector in Oman. It was also confirmed that this apprehension not the only factor hindering the development of the electronic commerce sector in Oman; rather, there are other factors and these directly affect privacy in terms of consumer reluctance to hand over personal data online. Finally, based on the findings of this research, it can be claimed that the implementation of electronic commerce in Oman to an adequate standard requires the enactment of laws that address both internet privacy concerns and the other issues itemized in table (8).

After addressing the main research questions, we now turn to introduce proposals for reforming the current Electronic Transactions Law No. (69/2008). This proposal aims to address the current deficiencies in the law and the ways in which these might be overcome in order to provide adequate legal protections for consumers when shopping online. The discussion will then turn to address the contributions made by this research to our current knowledge, recommendations, and future avenues of research.

9.3 Proposals to address the current deficiencies in the Electronic Transactions Law No. (69/2008)

The proposed reforms of the current Electronic Transactions Law No. (69/2008) will be based on commentary by the research participants about legislative deficiencies and ambiguities within the law. The main goal of this proposal is to develop a balanced legislative framework for consumer data protection in electronic commerce.

The aim of the proposed legislation is to alleviate consumers' concerns about privacy when shopping online and make them more enthusiastic participants in electronic commerce.

The proposed reforms are:

- To add definitions of personal data and electronic commerce.
- To amend the "damage condition" of Article (48) of the Electronic Transactions Law.
- To establish an independent national authority with the power to arbitrate on all requests submitted by person responsible for the processing of personal data.
- To add an article which mandates the establishment of a national authority concerned with monitoring implementation safety.
- To add an article which defines the responsibilities and duties of subcontractor third parties in contracts.
- To add an article concerned with determining the period of data preservation and erasure.
- To activate Article (5) of the Electronic Transactions Law (69/2008) regarding the status of controls and conditions for organizing electronic payment methods.
- To add an article concerned with consumer protection in online retail contexts.

- To add an article on setting restrictions and controls for promotional messages such as spam and junk.

The legal means to implement these proposals is either by amending the current Electronic Transactions Law or by issuing new legislation amending the Electronic Transactions Law for the purposes of consumer protection. However, amending existing legislation is not an option in the area of personal data protection. A new law will need to be enacted for this since this is the most egregious deficiency in the law identified by the research participants.

The current proposals confirm the need to amend the Electronic Transactions Law to ensure adequate protection for electronic transactions in Oman. The following section describes the amendments in detail.

9.3.1 First: Legal protection of personal data

The proposed legislation emphasizes the necessity of legal and specific definitions of the concepts of personal data and electronic commerce. Such definitions will help consumers to judge which data is to be considered protected and may not be processed or kept except for a period specified by the law. The consumer will also be able to specify the electronic storage media and the conditions and controls that must be met to verify whether the electronic transaction is of a commercial nature or not. This definition would prevent electronic companies from misusing personal data given that the legal concept is clear. Also, such a definition will spare the judiciary the burden of due diligence, given that the Omani judiciary will not be able to provide legal protection for something unknown and unspecified. This is the case for a civil judiciary that abides by written legal texts the existence of which is a prerequisite to ensure the provision of legal protection.

Likewise, it is suggested that Article (48), which relates to the conditions of data processing, be amended. If this article specified conditions that must be met when transferring personal data abroad, it would be reasonable and acceptable in that it took into account the availability of appropriate protections for this data. However, on the issue of protecting the interests of the individual, this article stipulates a general and vague condition without citing a specific detailed framework; it simply stipulates that a person whose personal data is processed must not be harmed. This may be dealt with by stipulating that personal data may only be processed upon receipt of written approval to do so, because the law gives the same eligibility requirement when requesting access to personal data. It may be inappropriate for the consumer to be granted their legal rights in certain cases and to withhold them in other cases that have the same effect. This may well increase their distress when conducting electronic transactions.

The importance of this amendment is evident in the need for legislators to avoid as far as possible vague and opaque phrasing and draft instead with specific and detailed terminology. This approach will help the judiciary to avoid lapses into misinterpretation of the concept of damage which is a complex concept, especially in cyberspace.

There is also a need for legislators to add an article in the Electronic Transactions Law which mandates the establishment of a national authority for data protection that has the power to license companies to engage in the business of processing personal data and to grant companies permission to transfer personal data abroad. An authority of this kind is needed because, under the current framework, the authorities in Oman do not have the authority to receive, approve or reject complaints regarding law enforcement or violations committed by data processors or holders in the event that specific harms or violations of the law are proven.

In tandem with the establishment of a national authority concerned with the protection of personal data, Omani legislators must establish a supervisory authority that oversees the practical implementation of the provisions of the law and monitors any problems that arise from implementation or failure to implement the law. The establishment of such a body would be evidence of the seriousness of the government's intention to provide adequate legal protection for personal data. The membership of this authority should be recruited from a variety of professional backgrounds given that expertise will be required in technical, legal and administrative fields. In addition, this authority may be either administratively and financially independent from or subordinate to the state, depending on the orientation that is appropriate to the context. Omani legislators should also establish an independent legal authority with a mandate to investigate grievances related to the protection of personal data. Such an authority would represent progress in the administration of personal data protection grievances. It should also wield specific powers to decide on the grievances and complaints received by setting a timeframe for resolving the disputes brought before it.

A further legal article should be added to the Electronic Transactions Law No. (69/2008) which specifies the responsibilities of subcontractors. As it currently stands, the law has nothing to say about scenarios in which a data processor uses the services of a subcontractor to help them perform their duties as a data processor. In principle, an internet service provider is considered a subcontractor for its handling of the personal data that its customers publish on the internet. However, complications arise in the event that the service provider processes personal data for other purposes outside the framework of the contract, and here the law should be clear about the duties of the service provider as subcontractor.

In light of this, the proposed additional article should define the obligations and liabilities of a contracted third party who is not legally permitted to process personal data. A third party in lawful or unlawful receipt of personal data may be considered the "the person responsible for processing" whenever they are effectively performing that role. In which case, they have appropriated personal data, are subject to the provisions of the current law, and may be penalized for a violation of personal data. Legal terms such as "subcontractor" should not be left to interpretation according to the general rules of law, but rather should be defined in detail and their legal implications should be spelt out. Omani legislators must acknowledge the existence of such cases until a legal framework is put in place that guarantees the protection of data subjects in order to foster confidence in the safety and security of electronic transactions.

Omani legislators should also explicitly stipulate a period of time beyond which personal data may no longer be retained. Currently, Article (46) of the Electronic Transactions Law specify such a period of time; it only alludes to the right to amend personal data if found to be incorrect. This means that the person from whom the data was collected cannot exercise one of their basic rights which will exacerbate their apprehension about electronic transactions, especially in instances that involve the surrender of personal data such as bank card numbers.

However, it should be noted that the rights of deletion and retention are restricted by conditions that consider the interest of the individual as well as the general public. For example, a request to delete personal data on the grounds of race, religion or political opinion is justified and legal because it relates to the principle of equality and non-discrimination. However, a request to delete may be rejected if it forms part of the implementation of a judicial ruling, for example, some legal provisions require the

publication of a court ruling as a public notice of serious criminal acts that threaten the social peace.

Omani legislators should also activate Article (5) of the Electronic Transactions Law No. (63/2008) with regard to banking operations that involve the competent authority coordinating with the Central Bank to define a specific system to facilitate electronic payments. The article was not implemented on the grounds that its existence was limited to the written text. However, it should be activated because it will provide a legal framework for an internet payments system which will be protected from a legal and technical point of view. Moreover, Omani legislators might go further and add a chapter to the Electronic Transactions Law that deals with electronic payment methods and electronic transfers. In addition, it might distinguish between the responsibilities and duties of institutions and electronic consumers to clarify the conduct of internet-mediated transactions and ensure stakeholders' confidence as a prerequisite of the prosperity and development of electronic commerce in Oman.

It is proposed that a further article be added to the current law that prohibits the sending of electronic messages, such as spam or junk mail, without prior consent on the grounds this is a violation of the right to privacy and constitutes illegal processing of personal data. The issue of spam points to the lack of clarity in Articles (47) and (48) of the Electronic Transactions Law No. (63/2008) which stipulate in the terms and conditions for processing personal data that no harm must be caused. As previously explained, this is a crucial phrase and must be amended. This problem arises from the fact that there is no authority mandated to implement the provisions of this law which reduces them to mere legal texts that have no effect in the real world.

9.3.2 Second: General protection of consumers in online contexts

It is proposed to add a further legal article or chapter to the Electronic Transactions Law No. (63/2008) which provides legal protection for consumers during and after purchases via the internet. The importance of this right resides in the fact the electronic consumer differs from their traditional counterpart in one key respect: they cannot inspect or examine commodities before purchase. This article should also grant electronic consumers the right to terminate a contract in the event that: there is error or ambiguity in the general specifications of the purchased commodity or service; there is deception or fraud. Omani legislators should be clear and transparent regarding the general conditions for displaying goods online and require retail websites to communicate to consumer's delivery dates in a clear and accurate fashion. It should be emphasized here that Omani legislators must explicitly specify all the conditions that retail websites must meet in the offering of goods or services. Likewise, legislators must be explicit about the pricing of goods and services, acceptable methods of payment, and whether or not pricing should include delivery fees. As well as specifying policies for the return or exchange of goods to be adopted by retail websites, including the period of time in which this is allowed, legislators in Oman should also specify the steps consumers may take to amend errors that may arise as a result of the incorrect entry of personal information.

9.3.3 Third: Unjust conditions

The Omani legislator must set down clear general rules regarding unjust conditions in online retail contracts by drawing up a list of them and specifying conditions that must be included in online retail contracts. The importance of clearly setting out such conditions in legislation is that it helps the judiciary to resolve disputes and issues quickly and effectively without the need to use general principles of law. Omani

legislators must use a clear methodology to define unjust conditions, such as a requirement that the purchaser is not entitled to compensation for damage. In parallel there should be a legislative requirement that the specifications and conditions of the commodity or service displayed on the website be clear, without ambiguity and in language that is not complicated or misleading and can be readily understood by consumers.

The legislators must give due consideration to the right of consumers to review electronic transactions in order to mitigate the effects of consumer haste in making online purchases. Granting a right to withdraw from a contract without legal justification will enable consumers to avoid the risk of buying under pressure or as a result of poor judgement. The legislators must specify a period during which the legal obligations arising from an electronic transaction remain binding to enable consumers to conduct electronic transactions with confidence. It is important that such legal texts are binding legislation because they do not leave matters to the agreement of the parties since most electronic transactions are not negotiable and the parties to the electronic transaction do not have the power to negotiate.

9.4 Contributions

The practical and theoretical contributions to our current knowledge are the following:

1. This research reveals that the development of electronic commerce in Oman depends on the availability of appropriate legal protections for privacy. It also identifies other factors that affect the development of electronic commerce and lists them in Table (8). Addressing the prevailing apprehension about privacy violations in the course of electronic transactions would contribute to the development of the electronic commerce sector in Oman.

2. This study demonstrates that, in order to resolve the current deficiencies in Omani law, either a specific law should be issued to protect personal data or the current legislation, the Electronic Transactions Law No. (69/2008), should be amended. The goal is to address consumers' apprehension when shopping online with a view to developing the electronic commerce sector. It should be pointed out that the development of electronic commerce will only take place by addressing the other factors affecting the development of electronic commerce.
3. This research is the first to discuss the impact of privacy on the development of electronic commerce in Oman from the perspectives of the three main stakeholders in electronic transactions, namely companies, individuals, and the government.
4. This research uses grounded theory as a research methodology to collect and analyse data. It is the first to use theory of this kind to explore the impact of privacy on the development of electronic commerce in Oman.

9.5 Recommendations

1. Rectifying deficiencies in the law as it currently stands in Oman to protect privacy in particular and consumers generally in online contexts. This will encourage consumers to shop online without fear of fraud or misleading information and give them the confidence to share their personal details online.
2. Establishing a committee of legal and information technology experts to monitor developments in the electronic commerce sector and to propose effective solutions for overcoming obstacles that standing in the way of implementing of electronic commerce to an adequate standard.
3. Establishing special courts with qualified staff to adjudicate disputes in the domain of electronic commerce and deliver rapid decisions, especially in small claims cases.

4. Encouraging educational research in the field of information technology and setting appropriate budgets for raising a generation specializing in technology and networks.
5. Government investment in building a strong communications technology infrastructure in collaboration with all relevant sectors.
6. Allowing new communication companies to compete in the domestic market at the same time as stressing the importance of guaranteeing the rights of consumers, including their right to the protection of their personal data.
7. Granting executive powers to the Information and Communications Technology Authority (ICT) to implement and monitor government agencies' compliance with the terms and conditions for using government services. Assuming that the government succeeds in implementing the Oman vision, this will encourage individuals and companies to adopt these technologies and use them in the conduct of business.
8. The government should encourage investment in the electronic commerce sector by granting incentives to companies and individuals, for example, tax exemptions and interest-free loans.
9. Until a new law on electronic transactions is enacted or the current law is amended, the recommendations of electronic consumer protection (OECD) should be implemented, provided that they act as procedural instructions before the Omani judiciary.
10. The government and corporations should cooperate in the development of academic and educational programmes, either by adopting educational curricula in universities and schools or by organizing workshops. This is to increase levels of awareness and change behaviour related to apprehension about using electronic services.
11. The government of Oman should seek to find an accurate system for numbering buildings and homes and to put numbers and names for roads and railways that facilitate the process of reaching these places and thus facilitate the process of

delivery to electronic consumers and companies. In addition to the importance of having mail boxes available at a competitive price for everyone who lives in Oman, if delivery is required through these boxes.

9.6 Avenues of future research

1. Oman may have laws codified in the statute book, but these are not enforced by institutions invested with the power and authority to do so. The fact that no institution currently enforces the provisions of the Electronic Transactions Law No. (69/2008) is a good example of this. This is an area, therefore, worthy of future study to assess its impact on the enforcement of privacy rights in particular and on the development of electronic commerce in general.
2. The current research liberally leverages grounded theory, a qualitative methodology which immerses the researcher in the social worlds of the respondents. There may be room, therefore, to gain insights into the impact of privacy on the development of electronic commerce in Oman by using quantitative methods. A meaningful goal of such approaches would be to provide executive authorities in Oman with accurate statistical data to underpin and inform policy development processes.

9.7 Conclusion

This research has revealed that privacy concerns are one of the main factors hindering the growth of electronic commerce at a global level in general and at a national level in Oman in particular. Beyond this, the research has proved that the privacy of electronic commerce consumers must be protected to ensure their willingness to shop online. Moreover, to adequately protect Omani consumers in online retail contexts, a robust legal framework must be put in place. The main aim of this research has been to explore the implications of privacy regulations for the growth of electronic commerce in Oman. To address the main research question and its sub-questions, this research followed an

interpretive method that involved conducting semi-structured interviews with the main stakeholders in electronic transactions. This method allowed participants to freely express their views on the widespread reluctance of Omani consumers to shop online and the need to regulate in this area. It also allowed the researcher to capture and explore specifically Omani perceptions of this phenomenon.

This research adopted a grounded theory or Straussian approach. This approach was fruitful in generating the categories that emerged from the participants' interviews. Finally, the researcher was able to summarize these categories to describe the real phenomenon of the implications of privacy issues for the growth of electronic commerce in Oman.

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Appendix 1: Ethical Approval



Research Ethics and Integrity Committee,
Dublin Institute of Technology,
Dublin 8.

12/11/2018

Dear Mr Al Kharaousi,

The Research Ethics and Integrity Committee of the Dublin Institute of Technology has reviewed your application entitled 'Towards the Development of a Balanced Legislative Framework for Consumer Data Protection in Electronic Commerce: The Case of the Sultanate of Oman' (our ref REC-17-131). I can confirm your project is approved to proceed.

Best of luck with the research.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'Steve Meaney', is written over a horizontal line.

Steve Meaney, PhD
Chair - DIT Research Ethics and Integrity Committee

Appendix 2: Sample Consent letter for Participants in the Project (English Form)

Dear Participant,

My name is Talib AL kharusi, a research student at Dublin Institute of Technology in Dublin. First of all, I would like to thank you for your participation in this study. I am conducting research on the impact of privacy regulations on the development of electronic commerce. This interview is part of my research project, which seeks to gain a personal view on this topic. The interview will last no longer than 30 minutes.

The purpose of this research is to investigate the impact of existence of privacy laws and regulations on the consumers' willingness to deal online without any fear about disclosing of his/her personal information. Your participation in this study is important and the findings of this study could provide an insight into how regulations protect consumers' privacy.

At first I would emphasize that any data collected will be encrypted and password protected, I will be the sole person who have access to the primary data. In addition, I would like to assure you that your responses will remain anonymous and confidential, and will be used only for research purposes. Your participation in this study is voluntary. You may decide not to answer any of the interview questions or answer them in any order if you wish. You can withdraw at any stage during the interview or afterwards by emailing me at the email address below, in which case the material will be deleted Finally, your participation is appreciated, and If you would like to be sent the findings of this study, or have any questions regarding this study, please do not hesitate to contact me.

Yours sincerely,

Talib Al kharusi

School of language, law and society.

Technological University Dublin

Dublin

Email: lawkingphd@gmail.com

Mobile Phone: +353831830627 (Ireland) & +96893222703 (Oman)

I have read the information presented in the information letter about a study being conducted by Talib al kharusi for a PhD project at Dublin Institute of Technology.

I have had the opportunity to ask any questions related to this study, and received satisfactory answers to my questions, and any additional details I wanted.

I am also aware that excerpts from the interview may be included in the project paper to come from this research. Quotations will/ will not be kept anonymous. I do/do not give permission for my identity to be revealed in research reports.

I was informed that I might withdraw my consent at any time by advising the student researcher.

With full knowledge of all foregoing, I agree to participate in this study.

Participant's Name: _____

Participant's Signature: _____

Interviewer's Name: _____

Interviewer's Signature: _____

Appendix 3: Sample Consent letter for Participants in the Project (Arabic Form)

كما أشرت آنفاً فإن سبب هذه الدراسة هو دراسة مدى تأثير وجود قوانين خاصة بحماية خصوصية الزبائن عند شراؤهم عبر الإنترنت على رغبتهم في إبرام عقود الشراء عبر الإنترنت دون وجود أي خوف من قبلهم على إفشاء معلوماتهم الخاصة عبر الإنترنت. لذلك فإن مشاركتكم في هذه الدراسة ضرورية لإكمال أهداف الدراسة.

وبناءً على قبولكم المشاركة فإنني التزم بالحفاظ على سرية المعلومات المقدمة من قبلكم وعدم استخدامها لأي سبب آخر غير أسباب هذه الدراسة. كما أؤكد أن مشاركتكم اختيارية ولكم مطلق الحرية في عدم الإجابة على أي من الأسئلة المطروحة. كما أن لكم كامل الحرية في الانسحاب في أي وقت خلال أو بعد إجراء هذه المقابلة بإرسال بريد إلكتروني إلى عنوان البريد الإلكتروني المبين أدناه، تبين فيه رغبتكم في الانسحاب من هذه الدراسة.

في النهاية، فإنني أكرر جزيل الشكر لمشاركتكم في هذه الدراسة وكما أود أن أؤكد على أنني على استعداد لتزويدكم بنتائج هذه الدراسة أو الإجابة عن أي تساؤل يتعلق بهذه الدراسة.

تقبلوا خالص الشكر والتقدير،،،

الباحث/ طالب بن سالم بن راشد الخروصي

Technological University Dublin

Faculty of Language, Law, Social Science

البريد الإلكتروني: lawkingphd@gmail.com

أرقام التواصل: 00353831830627 (جمهورية إيرلندا) و 0096893222703 (سلطنة عُمان)

أقر أنا الموقع أدناه بأنني قد قرأت المعلومات أعلاه المقدمة من قبل الفاضل طالب الخروصي المتعلقة بموضوع الدراسة التي يقوم بإجرائها في جامعة دبلن للتكنولوجيا، حيث قمت بسؤال الباحث عن كل ما يتعلق في هذه الدراسة قبل إجراء هذه المقابلة وقد تلقيت إجابات مقنعة لكل ما استفسرت عنه، كما أنني لا أمانع من استخدام هذه المقابلة في الدراسة كما لا أمانع من أن تكون هذه الاقتباسات غير معرّفة متى اقتضى الأمر ذلك. وقد أحطت علمًا بإمكانية اعتذاري عن إكمال المقابلة في أي وقت بناءً على كل ما تقدم فإنني أوافق على المشاركة في هذه المقابلة، وعليه أوقع.

اسم المشارك: _____

توقيع المشارك: _____

اسم معد الدراسة: _____

توقيع معد الدراسة: _____

Appendix 4: Information Sheet

Title of research project: Towards the Development of a Balanced Legislative Framework for Consumer Data Protection in Electronic Commerce: The Case of the Sultanate of Oman

Researcher's name: Talib Salim Rashid AL kharusi (Tel +353831830627)

Names of supervisors: Dr Stephen Carruthers (Language, Law and Social Sciences)

Email: stephen.carruthers@dit.ie (Tel +35314023085)

Technological University Dublin

Names of adversary supervisor: Dr Kevin Lalor

Email: kevin.lalor@dit.ie (Tel + 35314023085)

Language, Law and Social Sciences

The purpose of the research is to analyze the Development of a Balanced Legislative Framework for Consumer Data Protection in Electronic Commerce: The Case of the Sultanate of Oman.

If you agree to participate in this project, you will take part in a semi-structured interview. This interview will focus on your expert views on electronic commerce and personal data protection. It will last for approximately 30 minutes at a venue chosen by you.

The information will be gathered using a tape recorder and personal jotted notes. The data collected will be used by the researcher for the purpose of completing his PhD dissertation, and as the basis for published academic scholarship. However, all the information you provide will be treated with strict confidentiality and to ensure maximum confidentiality, the data will be encrypted in my work laptop. I would emphasize that you can withdraw your permission to use data from my interview within two weeks after the interview, in which case the material will be deleted. All the data from the interviews (transcript) will be encrypted and kept in a locked cabinet in Technological University Dublin. Data (transcript) are available to you on request at any time during the course of the research. On the completion of my research project, all identifying information will be deleted / destroyed in keeping with the laws of Technological University Dublin.

Appendix 5: Sample Interview Questions

Research Questions:

- 1) What are the current limitations in the legislative framework in Oman that impede the development of consumer's data protection in e-commerce?
- 2) Does the current legislative framework in Oman provide sufficient confidence for consumers with respect to protecting their data in e-commerce transactions?
- 3) Does the current legislative framework in Oman impede the development of e-commerce from the perspective of e-commerce companies?
- 4) How can the current legislative framework in Oman address consumers' data protection concerns and be improved to enhance consumers' protection in e-commerce transactions?

Aims of the Research:

- 1) To identify the current limitations within the legislative framework in Oman that impede the development of consumer data protection in e-commerce.
- 2) To evaluate the current legislative framework in terms of the extent to which consumers are confident that their data is protected in the context of e-commerce transactions.
- 3) To identify the elements within the current legislative framework in Oman which impede the development of e-commerce from the perspective of e-commerce companies.
- 4) To discover the ways in which the current Omani legislative framework can be improved to enhance consumer protection in e-commerce transactions.

My research Questioner

Interviews Protocol

This study will be conducted with the aim of identifying the obstacles within the legal framework system in the Sultanate of Oman which currently impede the improvement of the security of consumer information in the context of electronic commerce.

Appropriate suggestions and recommendations will also be made to strengthen the regulatory system in the Sultanate of Oman.

This will be explored in three ways: (1) the reasons why personal data protection is an obstacle to electronic commerce; (2) national and international regulations in the area of personal data protection; and (3) other obstacles to the implementation of electronic commerce and its impact on consumers' desire to provide their personal information online.

These aims will be achieved by exploring these issues from the various perspectives of legal experts, consumers and company representatives. This will help the researcher to obtain more detail, feedback and opinion from the different stakeholders by discussing their experience and knowledge of electronic commerce.

The main question of this research is:

1. Investigating the impact of personal data protection regulations on the development of electronic commerce.

Further, the current research addresses the following sub-questions:

2. An investigation into the reasons why privacy constitutes an obstacle to electronic commerce.
3. If privacy inhibits electronic commerce development, an investigation of other obstacles to electronic commerce and their influence on personal data protection concerns.
4. A review of national and international regulations concerning personal data protection, with an emphasis on the regulations of the Sultanate of Oman.

Data will be collected on the perspectives of consumers, companies and policy makers. Specific questions will be put to each category of interviewee, which will help in addressing the proposed research questions. These are the initial proposed questions that will be revised along with further questions that will be formulated in response to the flow of data.

Questions for consumers:

1. Could you tell me about your experience of electronic commerce transactions?
2. As a consumer, could you tell me about your concerns when you shop online?

3. To what extent do you think personal data protection concerns influence consumers' willingness to trade online?
4. How do you know if the website is secure and safe?
5. If you want to buy or sell a product through the internet, are you confident to buy/sell through national/global websites? Why?
6. In your opinion, could you describe the factors that influence Omani consumers' willingness to trade online?
7. How would do you describe the role of regulations in addressing these concerns?

Questions for company representatives:

1. As a company how do you perceive electronic commerce?
2. Could you tell me about the factors that influence businesses to adopt electronic commerce activities?
3. From your experience, what are the main concerns that influence consumers' willingness to trade online?
4. How do consumers deal with security and safety matters?
5. How does the need for consumers to provide their personal information influence their willingness to buy and sell online?

Questions for legal experts:

1. Could you describe the impact of regulations on electronic commerce activities?
2. Could you describe the legal factors that influence electronic commerce?
3. As a legal expert, to what extent do you think the protection of personal information influences consumers' willingness to buy and sell online?
4. How would you describe the existing regulations with regard to protecting personal information while purchasing through the internet?
5. What do you think is the most important thing that should be taken into consideration with regard to the existing regulations?

Field procedures:

The main method used will be semi-structured interviews with open-ended questions, which will help to obtain in-depth data on the research questions under discussion. This is achieved by giving respondents the opportunity to express their experiences and knowledge

On the one hand, information will be collected from respondents from key ministries in Oman dealing with e-commerce issues: the Ministry of Transport and Communications, the Ministry of Commerce and Industry, and the Ministry of Justice. In addition, legal experts will be interviewed about their knowledge of the rules concerning electronic commerce, personal information privacy and their impact on e-commerce activities. On the other hand, consumers' perceptions will be explored by interviewing Omani consumers about other obstacles to the implementation of electronic commerce and their influence on the willingness of consumers to provide their personal information online. In addition, company representatives will be interviewed to explore many issues related to their online activities and their role in encouraging consumers to deal online.

Appendix 6: List of Modules

Research Methods and Introduction to Statistics:

The researcher take advantage of both modules to raise the abilities and familiarity with some types of research methods and methodologies and this has helped to select the methodology that suits the current thesis.

Also deepened the studies in the field of philosophical system of methodologies such as interpretivism and positivism and selected the appropriate approaches to answer the current thesis questions.

Introduction to Statistics:

This module helped to familiarize the researcher with statistics and calculations associated with it and how to use and deal with certain applications. This helped to deal with the numbers and statistics associated with the field of thesis and draw conclusions from them.

Business Research Methods:

Since some of the subjects to the current thesis are commercial companies and consumers, it was important to know how to analyze the opinions of commercial companies and consumers and measure their satisfaction, efficiency and readiness from technical, personal and geographical aspects. This was important to facilitate access to a realistic idea of the methods and tools of data analysis related to the field of business.

The Criminal Justice System:

This module has given an idea of how to manage cases, execute judgments and the means of governments and other relevant sectors in dealing with various crimes and measure the extent to which society reacts with it to achieve justice, ensure legal stability and adopt a realistic judicial system. This has helped the researcher to develop critical analysis of the possibility of proposing to amend or repeal certain legal articles in current field of thesis.