

Gulf Studies 5

Syed Nazim Ali
Zul Hakim Jumat *Editors*

Islamic Finance and Circular Economy

Connecting Impact and Value Creation

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Qatar Financial Centre

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Preface

Islamic finance has come a long way over the last four decades. In its current transformative decade, Islamic finance is facing the challenge of strategic sustainability, which requires the Islamic finance industry to revisit its operational paradigm.

The challenge can be seen in forms of the growing global landfills crisis, ecological and environmental degradation, climate change, and other environmental stressing factors, which are widely understood to be the by-products of the current linear approach of the world economy. While this approach of ‘taking, making, using, disposing and wasting’ the planet’s resources is the dominant economic paradigm, the laws of ecology, like the water cycle, demonstrate that nature does not ever waste.

With the underlying principles of zero-waste and sustainable agenda, over the last few years, the circular economic system, which explores ways, processes and incentives that aim to minimize and ideally eliminate all types of waste, is gaining global attraction. That being so, what are the prospects of a handshake between Islamic finance and this emerging new paradigm?

The circular economy, if applied correctly, can first and foremost help countries like Qatar to fight the risks of climate change by becoming the first GCC country to implement sustainable economy and business model. It also allows companies to get much more value out of the energy resources, materials, and other primary sources they use. That additional value can then be deployed to optimize their services, contribute to their clients’ return on investment, and promote transparent sustainable practices in the communities they operate.

This book presents studies and deliberations that are much needed to explore prospects for economy, finance, business, management, and other fields of humanities to learn from nature through the lens of Islamic values along with the multidimensional Sustainable Development Goals of the United Nations (UN SDGs).

All in all, this book would not have been possible without the hard work and dedicated efforts of several individuals. First and foremost, to the Dean of the College of Islamic Studies (CIS), Hamad Bin Khalifa University, Professor Emad El-Din Shahin for his constant trust and support that has provided me the confidence and motivation to continue my duties as the Director of CIS Research Division. In addition, without

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I am also genuinely grateful to the CIS Islamic finance faculty members for their guidance and support to the Center for Islamic Economics and Finance (CIEF). It is with their support and encouragement that we have been rendering the services by organizing events of at a large scale and disseminating knowledge via our publications. Most notably among them are Prof. Dr. Nasim Shirazi, Prof. Dr. Ahmet Faruk Aysan, Dr. Abdulazeem Abozaid, Dr. Dalal Assouli, and Dr. Mustafa Disli. Also, my special thanks go to our former CIS Islamic finance faculty, Dr. Tariqullah Khan, for his inspirational motivations that initiated this research endeavor.

Likewise, I would like to express my deep appreciation to my CIEF staffs, Ms. Bahnaz Al-Qaradaghi, and Mr. Saqib Hafiz Khateeb, for their assistance in completing this book.

Last but not least, I am grateful to all my contributors in this book who have spent a great deal of time in preparing their chapters and following our guidelines, and to my co-editors, Mr. Zul Hakim, for always giving his best efforts into bringing out this book. I hope the readers will find this book an important addition to the growing body of literature on Islamic banking, finance, economy.

This book is product of the hard work done by academicians and professionals spread across several continents. I must appreciate their commitment and hard work in converting this book from a mere idea to a reality.

Syed Nazim Ali
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Chapter 1

Islamic Finance and Circular Economy: An Introduction



Syed Nazim Ali and Zul Hakim Jumat

Abstract The world is facing unprecedented ecological, social, and economic imbalances and insecurities. Over the last few years, a circular economic system is emerging and introducing means and processes to learn from nature and minimize all types of wastes. It espouses a zero-waste economic system that calls for moderation in consumption and better treatment of natural resources, which mirrors Islamic finance and economy principles. On that note, the book, hence, provides a multidisciplinary approach in highlighting the common grounds of circular economy and Islamic finance in their efforts in providing a valuable and impactful alternative economic framework. The volume provides a critical overview and a comprehensive theoretical analysis of the circular economy from Shariah's perspective. In addition, it examines Islamic finance empirically in light of sustainability and value-creation while also highlighting several case studies on the circular economy application in the Islamic finance industry.

The world is facing unprecedented ecological, social, and economic imbalances and insecurities. The United Nations Secretary-General, Mr. António Guterres, reiterated this important issue in a lecture at the Hamad Bin Khalifa University, Qatar Foundation on December 16, 2018. In his lecture, he emphasized that climate change, which is the result of human actions, is the core cause of these uncertainties. He called for multilateralism and conscious efforts to reverse global warming, among other perennial challenges facing the world.

It is widely recognized that science and technology have made tremendous progress by discovering and learning from nature through different processes such as biomimicry. However, contrary to science and technology, economics, business management, and humanities have failed to learn any lessons from nature. The

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existing linear economic system is still largely based on extracting natural resources, producing, using, wasting, and dumping the waste into landfills, rivers, and seas or the atmosphere as incinerated smoke, causing an alarming signal to the earth's uncertain and adverse future. Over the last few years, a circular economic system is emerging and introducing means and processes to learn from nature and minimize all types of wastes. Moreover, it espouses a zero-waste economic system that calls for moderation in consumption and better treatment of natural resources.

Likewise, the teachings of Islamic finance and economy, which is the practical manifestation of Islamic values from the Quran and Sunnah, underline the significance of the universal scientific law of *Meezan* (balance) that juxtaposing care is needed to avoid ecological, social, and economic imbalances. In Chapter 55, verses 7 to 9 of the Quran states: “*And the heaven: He has raised it high, and He has set up the Balance. In order that you may not transgress (due) balance. And observe the weight with equity and do not make the balance deficient*”. Similarly, the *Maqasid al-Shari'ah* (the objectives of Shariah) and the UN Sustainable Development Goals, which will be discussed further in the chapters, are also in unison in highlighting the importance of preserving and promoting the ecological, social, and economic balance.

This challenge of uncertainty that the earth, humankind, and all other species are confronted with is truly unprecedented and more certain and real than commonly understood and realized. As the potential solutions are closely related to managing the earth's resources in a compassionate, judicious, and efficient manner with a long-term perspective, these solutions indeed must also be multidisciplinary in nature.

1.1 Book Outline

The principle of this book is to provide a multidisciplinary approach in highlighting the common grounds of circular economy and Islamic finance in their efforts in providing a valuable and impactful alternative economic framework. The volume provides a critical overview and a comprehensive theoretical analysis of the circular economy from Shariah's perspective. In addition, it examines Islamic finance empirically in light of sustainability and value-creation while also highlighting several case studies on the circular economy application in the Islamic finance industry.

Chapter “Islamic Perspective on Circular Economy” of this volume assesses the relevance of circular economy concepts in Shariah. The authors qualitatively suggest that circular economy concepts are in union with the Quran, Sunnah, and *Maqasid al-Shari'ah*. Furthermore, the chapter includes several suggestions of ways in which circular economy can be incorporated into *Shari'ah* models and contracts and be resonated adequately with *Maqasid al-Shari'ah* framework in promoting sustainable development.

Chapter “Environmental Protection and Sustainable Development: An Islamic Perspective” examines the provision of Islamic legislation on matters related to environmental care and sustainable development. Focusing on the Islamic jurisprudence

rulings and maxims, the authors summarize the *Maqasid* approach in addressing environmental issues that are designed to safeguard and promote all aspects of human well-being and obligate us to manage our usage of the natural resources as well as preserve it for the needs of future generations.

Part 2 of this book starts with Chapter “Circular Economy Financing: Islamic Finance Perspective” which highlights financing the circular economy concepts, especially “green financing” via Islamic finance products. The author analyzes the green financing trends and identifies the strengths, weaknesses, and some of the challenges that Islamic finance faces in financing circular economy projects.

Chapter “Circular Economy, Green Economy, and Sustainable Development: Establishing the Interconnections and Discouraging the Role of Islamic Finance” examines the connections of circular economy, green economy, and sustainable development goals in terms of their concepts, goals, and practical strategies. The authors shed light on a possible Shariah-compliant business model for Islamic banks, which offer Islamic banks an edge over conventional banks in terms of providing financing for all stages of circular economy and sustainable projects.

Chapter “The Circular Economy and its Possible Collaboration with Islamic Economics and Finance” focuses on the limitation of circular economy discourses and reservations that have been expressed on the social impacts of Islamic finance. The authors argue that, despite the limitation, the circular economy provides an opportunity to further strengthen the connection of Islamic banking discourse with the economic goal of social development.

Chapter “ESG Analysis and Shariah Screening: Mutual Learnings for a Better Investment Climate” discusses the performance of NIFTY100ESG, Nifty Shariah 50, and Nifty 50 indices in the Indian context over a period of time. The authors underscore the performance of the ESG index, and its value for the ESG strategies to be replicated in Shariah portfolios.

Chapter “Sustainable Investment and Transparency Recommendations in Segmented Markets: An Application to Islamic Investment Accounts” discusses the trust problem, which is critical in securing a sustainable long-term investment. Particularly in Islamic financial systems, trust problems are severe for private investors, where intransparent Islamic investment accounts are responsible for a majority of the funding of Islamic banks. The authors devise a sustainable investment recommendations model that rated 72 Islamic investment accounts across 13 countries.

Chapter “Sustainability, Trust and Blockchain Applications in Islamic Finance and Circular Economy: Best Practices and Fintech Prospects” explores the hype of blockchain-backed solutions to sustainability issues. The author highlights the need to filling up the current gaps of blockchain solutions through more innovative and applied research to expedite blockchain solutions in fulfilling its potential for circular economy and Islamic finance.

Chapter “Financial Development and Ecological Footprint in OIC Countries: Islamic Perspectives and Empirical Evidence” aims at analyzing the relationship between financial development and ecological footprint. The author demonstrates that financial development assists in both improving the quality of the environment

as well as its degradation depending on the priorities of the financial sector—and perhaps on the prosperity level of OIC countries.

Chapter “A Consumer Perspective of The Circular Economy: An Empirical Investigation Through Structural Equation Modelling” provides an empirical investigation through structural equation modeling and identifies inevitable factors of sustainable products and their impact on consumer purchase intention from a marketing perspective. By using the theory of planned behavior, the author discusses his findings that will assist policymakers in developing strategies that are both aligned to sustainable goals and circular economy principles.

Chapter “A Multi-Layer Analysis and Solution for Climate Crisis: From the Restructuring of Production to Restructuring of Knowledge” elucidates the root cause behind the inability of the current globalized economic system in preventing climate crisis by using the Hollingsworth framework of institutional analysis. The author discusses the foundation reconstruction of the society by adopting the Islamic—environmentally friendly—principles and paradigm template, which is essential in improving the climate crisis condition.

The third part of the book provides experiences from selected countries as case studies in terms of innovations in the area of circular economy. Chapter “Zero Waste Cities in the Developing World: A Comparative Study” discusses a detailed evaluation of waste management and zero waste attempts in Middle Eastern cities. The chapter highlights the perceptible significant gaps regarding waste management and therefore, calling for strategic waste management and an overly sustainable consumption model. With a backdrop understanding that the developing countries are quite vulnerable to the vagaries of climate change, the chapter studies the comparison of waste management and zero waste attempts in Middle Eastern cities, notably Qatar, and in some contexts in sub-Saharan Africa, where interesting case studies may be found. Furthermore, the author sheds light on the importance of the relationship between localization and zero waste strategies in playing an essential role in the circular economy.

Chapter “Solving the Problem of Water, Sanitation and Hygiene in Nigeria Using Blended Finance” studies the potential of Islamic blended finance in financing water and sanitation projects in Nigeria. The authors propose an innovative Islamic blended finance structure that could assist in bridging the financial gap in sustainable development goals project in Nigeria, specifically the WASH program project.

Chapter “The Role of Islamic Finance in Fostering Circular Business Investments in the Case of Qatar’s Tire Industry” examines the role of Islamic finance in promoting circular economy investments. With the reference to Qatar’s tire industry as an example of circular business, the authors suggest that Islamic finance profit and loss sharing financing, complemented with Islamic blended finance structure, can be used to promote circular businesses investments. In addition, the authors devised and drafted a circular economy law for the state of Qatar to foster the growth of circular businesses.

Chapter “Electronic and Electrical Waste Management: Malaysia and Sweden Experiences” studies the comparison of the implementation of SDGs in e-waste management between Malaysia and Sweden, especially the electronic and electrical

waste management systems. The authors highlight both countries' experience in e-waste management and attribute their success to the comprehensive regulatory support that fosters a conducive environment.

1.2 Future Directions: Key Takeaways

Targeting scholars and graduate students conducting research on various sustainable developments issues related to Islamic finance, this is the first practical handbook of its kind that helps readers to understand the circular economy framework and concepts under the lens of Islamic finance principles and applications. Some of the key takeaways are summarized below:

Need for a New Paradigm

The paradigm of multidimensional development leads to circular and impactful businesses. Blended finance, which advocates social subsidy for businesses, leads to the emergence of impactful SMEs. Social justice and social change are at the core of the circular economy. Sustainable development, green economy, and circular economy are considered common avenues to conciliate economic, social, and environmental goals.

Alignment with Shariah

Responsible investments are very closely linked to Shariah. *Maqasid al-Shariah* principles also attest to this alignment and linkage. According to the Islamic point of view, human beings are only vicegerents, so they should not think that they own this world. Rather they should consider the world as a responsibility that has been bestowed onto them. The convergence of ESG and Shariah criteria can help to rebrand Islamic finance and attract a wider spectrum of investors.

Tradeoffs

A balance between growth and sustainability needs to be achieved, and the solution may not be very straightforward as we take all the necessary parameters into consideration.

1.3 Proactive Efforts Using Technology, Regulations, and Increase of Awareness Required

Proactive efforts to finance technologies that help in achieving a circular economy need to be taken. Policymakers, practitioners, and regulators need to be aware of the perceptions and mentality of consumers, which affect their decision-making process when purchasing circular products. A collaborative effort is required among

central authorities, local governments, financial institutions, and enterprises toward the establishment of a sustainable financing mechanism. Innovations such as Green Sukuk can provide impetus to the circular economy efforts. Blockchain can serve as an effective tool as an SDG accelerator. A favorable approach, while less compelling, would be to gradually change the attitude as this avoids the indirect impact of disincentives on the business, economy, and employment. We need to develop the culture of serving the community and to know that we all are partners in the earth's resources and that this earth is for all of us.

1.4 Recommendations

Based on the chapters presented in the volume, the following recommendations can be summarized:

- Convergence between the principles as well as the objectives of circular economy and Islamic finance can bring positive change in the economy for the benefit of humankind.
- Aligning the objectives of sustainable financing circular economy, green economy within the framework of Islamic finance is essential in creating a valuable impact for the global economy.
- There is a need to revisit the concept of Islamic finance and align it with the goals of Islamic economics.
- Avoid focusing on conventional or western economic models, Islamic economics and finance should concentrate on developing their own code, model, and framework.

Syed Nazim Ali currently the director, Research Division and director of Center for Islamic Economics and Finance at the College of Islamic Studies, Hamad Bin Khalifa University (HBKU). Prior to joining HBKU, he was the Executive Director (Acting) of the Islamic Legal Studies Program (2010-2013) at Harvard Law School and Founding Director of the Islamic Finance Project at Harvard University since its establishment in 1995. During the last thirty years, he has spearheaded many research landmarks in the areas of Islamic finance and faith-based financial initiatives. He has paid special attention to lines of inquiry that seek to examine and interrogate the frontiers, facilitate research, and encourage dialogue among various stakeholders and external discussants. Dr Ali has played a lead role in organizing several conferences, workshops and symposia in the field during his nearly two decades association with Harvard, including the internationally renowned biennial Harvard University Forum on Islamic Finance; the proceedings of which are serially compiled and published under his supervision; and the annual workshop at the London School of Economics which brings together the sector's leading economists, shariah experts and practitioners in order to address key issues confronting the Islamic Finance sector. He is a member of the International Advisory Board of the Centre for Islamic Finance at the University of Bolton. His most recent publications include *Fintech, Digital Currency and the Future of Islamic Finance* (Springer, 2020), *Fintech in Islamic Finance: Theory and Practice* (Routledge, 2019), and *Shari'a Compliant Microfinance* (Routledge, 2012). He received his Ph.D. from the University of Strathclyde, Glasgow, U.K.

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Part I
Islamic Perspective on Circular Economy
and Sustainability

Chapter 2

Islamic Perspective on Circular Economy



Saqib Hafiz Khateeb, Zul Hakim Jumat, and Munir Soud Khamis

Abstract Crises and disasters, man-made or natural, prove to be an opportunity from which mankind can benefit and take lesson to learn to be conscious of Allah’s blessings and care for its rights. One of the lessons learnt is that capitalism is naturally driven by profit maximization actions that have adverse effects to our surroundings. This economic hegemony has led to environmental problems, which pose threats to humankind livelihood. In this light, the circular economy trend emerges to alleviate this adversity, preserve the rights of others, and protect the environment. Undoubtedly, the principles of circular economy coincide with Islamic economic theory. This chapter endeavors to study Circular economy in relation to Islamic economy and its principles, in two parts. The first part will be on “Defining Circular economy, concept, goals and benefits”, and the second part will be discussing “Circular economy in Quran, Sunnah and *Maqasid al-Shariah*”.

2.1 Introduction

From the dawn of the twentieth century, the global economy greeted a surge of ideologies that emphasized economic growth on the expense of resources that are abundant and low cost, without any prevailing concern of its impact on the environment. Hotelling model suggests that even when market prices fully reflect the value of a species, it will be efficient to exploit a species to extinction or totally degrade an ecosystem if the value of the species or the ecosystem over time is not increasing at least as fast as money deposited in an interest-bearing bank account (Hotelling

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1931). Hence, from a business perspective, the degree of natural resources exploitation is solely and highly correlated with profit maximization. Businesses increasingly extract raw materials either to minimize the costs or maximize the profits (Bakan, 2006). With the extracted raw materials, they manufacture desired products and sell them to as many consumers as possible. Households and consumers, on the other hand, have embraced a frightfully unsustainable lifestyle of acquiring, using, and discarding desired products after they have served their purpose without being conscious of the implications of their actions. In this manner, the economy has become a linear system of extracting, utilizing, discarding, and extracting more.

As much as the linear model seems to be economically compelling to businesses and consumers, the outcome of this model on the long run is likely to be shortage and depletion of natural resources, growing price volatility, climate change and continued ecological degradation. In fact, the growing concerns about environmental decimation in the present era are attributed to the linear economy. The emergence of newer challenges such as natural resource depletion, intensification of global warming, rise in new levels of air, water, and soil pollution, biodiversity loss, environmental degradation, and excessive land use are evident shortcomings of this model (Geissdoerfer et al. 2017). It is worth noting that these challenges are not confined to the ecological and social dimension. According to Sachs (2015) low productivity, inefficient and deregulated market structures, and disturbances in economic and financial markets can be regarded as symptomatic of the linear models (Sachs, 2015).

The sheer ineptitude of the linear economy undermines the need of an ultimate new model of industrial organization to disconnect the masses from a linear economy ideology, which carries no incremental efficiency gains. It is a call towards proper care for natural resources and products where it could be repaired, reused, or upgraded instead of being thrown away. Reasonable use of raw materials and the ability to reuse or recycle wastes are among the inherent and intuitive value in Circular Economy (CE). Furthermore, the concept of CE commensurates with the preservation of the environment and the United Nations Sustainable Development Goals (SDGs), particularly the twelfth SDG which calls for responsible production and consumption. The models of CE are characterized by less use of virgin nature's capital, more dependence on renewable energy, reductions in wastes and emissions, higher durability of products, focusing on recycling, refurbishing, and remanufacturing, and reductions in waste disposal. Circular business models remediate environment degradation by promoting the concept of eco-effectiveness (Braungart et al., 2007).

Judging by the objectives of circular economy and the values incorporated in its models, CE resonates adequately with the framework of *Maqasid al-Shari'ah* (the objectives of Shariah). In his book *Al-Mustasfa*, Al-Ghazali described *Maqasid* as: "*The very objective of the sharia is to promote the welfare of human beings, which lies in safeguarding their faith, their life, their intellect, their posterity, and their wealth. Whatever ensures the safeguard of these five fundamentals serves public interest and is desirable, and whatever hurts them is against public interest and its removal is desirable*" (Abu Hamid Al-Ghazali n.d.).

Islam forbids the waste of resources and considers it sinful. This materialistic behavior is labeled as *Israaf* (excess consumption/spending) in Quran. Since these

wasteful instincts drive the attitudes of entrepreneurs, individuals, households, and firms, it actually calls both the producer and the consumer as kins of the devil. It states: “*Those who squander are the brothers of Satan, and Satan is most ungrateful to his Lord*” (Quran, 17:27). Concurrently, Islam encourages the most efficient use of resources as Allah says in the description of true believers: “*And [they are] those who, when they spend, do so not excessively or sparingly but are ever, between that, [justly] moderate*” (Quran, 25:67).

The circular economy model is tandem with many elements of Islamic law such as social justice, better resource utilization, preservation of wealth, environmental care, and the notion of ‘damage should be removed’ which is a legal maxim. This paper adopts an analytical narrative approach to link the principles, objectives, and business models of CE to *Maqasid al-Shari’ah*. Furthermore, this study explores the concepts of CE and sustainability inherent in Shariah as an attempt to highlight potential opportunities that Shariah can offer to facilitate and promote CE models in a quest of achieving a comprehensive sustainable development.

2.2 Literature Review

Khan (2019) discussed a number of paradigmatic and regulatory reforms that will be required to enhance the actual effectiveness of Islamic finance in achieving the ideals of Comprehensive Human Development (CHD), and the SDGs at large. Khan stressed the need for a paradigmatic (one of which is the transformation of businesses from linear models to circular paradigm) and regulatory reform to address the objectives of *Shari’ah* to ensure that ecological environment is recognized as a resource (Khan 2019).

Abdul Jalil (Ibrahim & Shirazi 2020) explored ways in which Islamic finance can support circular businesses within OIC countries to achieve economic growth that is not at the expense of the environment. The study emphasized on the role of Islamic finance’s compassionate contracts and financing modes such as equity-like, and risk-sharing financing modes to support circular businesses motivated by the holistic objective of *Maqasid*. The study also urged financial regulatory authorities and Islamic financial institutions to consider risks associated with climate change and linear economic activities in terms of asset valuation and pricing (Ibrahim & Shirazi 2020).

However, this chapter extends the literature on Islamic perspective of CE by demonstrating that nexus between the objectives of CE and *Maqasid al-Shari’ah*. Furthermore, it demonstrates the concept of CE from *Maqasid al-Shari’ah* perspective and explore methods of which *Shari’ah* promotes CE to achieve sustainable development.

2.3 Circular Economy

Arguably CE was initially conceptualized in view that economic growth leads to ecological degradation, over exploitation of natural resources and loss of biodiversity (Lieder & Rashid, 2016). Hence, CE was introduced to remediate the shortcomings of the linear models by promoting the concept of eco-effectiveness (Braungart et al., 2007). The pertinent literature negates existence of a prevailing consensus over the definition of CE (Rizos et al., 2017). Generally, CE is usually defined based on the core features of its objectives and models.

Perhaps the most popular definition of CE is that “CE is an industrial system that is restorative or regenerative by intention and design. It replaces the ‘end-of-life’ concept with restoration, shifts towards the use of renewable energy, eliminates the use of toxic chemicals, which impair reuse, and aims for the elimination of waste through the superior design of materials, products, systems, and, within this, business models” (Ellen MacArthur Foundation, 2016; Geissdoerfer et al., 2017; Schut et al., 2015). This definition indicates that a holistic implementation of CE necessitates a systemic shift of economy. However, the findings of Kirchherr et al. (2017) analysis negates this allegation, as they suggest that CE is most frequently depicted as a combination of reduce, reuse and recycle activities, whereas implementing these activities is not necessarily correlated with a systemic shift. Overall, the concept of CE can be depicted in the ‘R frameworks’ or ‘R strategies’. The most basic of these frameworks being the 3Rs: ‘Reduce, Reuse and Recycle’ which has been used in China’s 2008 Law on Circular Economy Promotion. On the other hand, the 9Rs framework is known to be the most sophisticated R framework. The 9Rs framework stands; ‘Refuse, Rethink, Reduce, Reuse, repair, Refurbish, Remanufacture, Repurpose, Recycle and Recover’.

In a nutshell, a circular economy is where the resources are produced based on requirement and then adequately used, then regenerate products and materials at the end of each service life. This promotes economic prosperity, enhances environmental quality and social equity, and leaves the resources for the better use for future generations.

2.3.1 History of CE

The roots of circular economy can be traced back to the late eighteenth century. In 1798, Thomas Malthus, concerned about the world’s mushrooming population, published his famous work, “An Essay on the Principle of Population” where he argued that continued population increases would eventually diminish the world’s ability to feed itself. Other influential figures in these early years included John Stuart Mill and Hans Carl von Carlowitz, who advanced theories around responsible management of natural resources (Lacy & Rutqvist, 2015). In the late nineteenth century, the Journal of American History recorded the first protests against pollution

which was the first efforts to conserve natural resources, and the first campaigns to save wilderness (Rome, 2003). However, it was the twentieth century when CE fully gained its momentum, starting with Boulding's (1966) study that portrayed earth as a circular dimension with finite capacity as an indicator that very limited natural resources are accessible for human activities. This claim of natural resources' finite nature and their risk of depletion was further attested by the book 'The limits to growth' which argued that delays in global decision-making would cause the human economy to overshoot planetary limits before the human ecological footprint slowed. As a result, human society would be forced to reduce its rate of resource use and its rate of emissions (Lacy & Rutqvist, 2015).

It is worth noting that CE as a concept is attributed to the study conducted by Pearce and Turner. The findings of this study portrayed the influence of natural resources to the economy by providing inputs for production and consumption as well as serving as a sink for outputs in the form of waste (Pearce & Turner, 1991). However, CE as a concept did not receive much attention and importance until the Chinese Government attempted to implement it in the wake of the twenty-first century, through an initiative called the "Circular Economy Promotion Law of the People's Republic of China".¹ The Sustainable Development Goals can be regarded as the most recent initiatives in promoting CE which enhances achieving comprehensive human development as well as sustainable development. According to the 73rd UN General assembly "the CE holds particular promise for achieving multiple SDGs, including SDGs 8 on economic growth, 6 on energy, 11 on sustainable cities, 12 on sustainable consumption and production, 13 on climate change, 14 on oceans, and 15 on life on land" (UN Economic & Social Council, 2018).

2.3.2 *Advantages of CE*

The current widely followed economic system is what is known as a linear economic system. Broadly based on 'take, make and dispose mechanism', it centers around extracting from natural resources—some of which are already scarce -, manufacture a product, sell it to the consumer, consumption by the consumer and lastly to dispose it off as waste. The linear paradigm is an optimum solution to satisfying the demands of ever-hungry consumers as well as the ever-greedy companies. Such a capitalistic and materialistic way-of-life fulfilled the desires of self-centric humans, but the environment and the 'other' population had to suffer. The polluted oceans, the vanishing forests, the endangered species and the rising global temperatures are all results of linear economy. We do not need to wait for a change until the diminishing scarce resources fail to meet the consumer demands in the future. The destruction of the value inherent in the linear economy has become clear and the potential for

¹ Lieder, M. and Rashid, A. (2016), Towards circular economy implementation: a comprehensive review in context of manufacturing industry. *Journal of Cleaner Production*, 115, 36–51.

an alternative circular approach, one that is regenerative and restorative by design, is increasingly appealing (Working Group finance2016).

The term Circular economy is associated with the evolution and transformation of businesses from an unsustainable model encompassed with major predicaments such as a loss of biodiversity, deforestation, pollution and natural resources depletion to a more viable model of which all stakeholders, society and the environment can benefit from. Circular economy (CE) originated from the inspiration of nature and its living system as the CE is restorative and regenerative by intention and design which enhance restoration of ecological balance, societal well-being and achieving economic growth. CE models use two types of materials: biological (renewable) materials which are reusable and degradable; and technical (nonrenewable) materials, designed to move back and forth between production and consumption with minimal loss in quality or value (Lacy & Rutqvist, 2015). What better defines the importance of CE could be its expected results. It helps reduce waste, campaigns for better resource efficiency, creates a more competitive economy, and helps reduce the environmental impacts of our production and consumption. Unlike the linear economy, value creation in a circular eco-system is tied to the ability of firms to manage resources in the markets which promotes zero-waste value chains powered by regenerative (renewable) energy. In this regard, the circular economy is a multidimensional compelling nature course of sustainability because it takes the financial, economic and environmental benefits and costs into consideration in an integrating way (ING, 2015).

The circular advantage is the competitive edge gained by companies embracing an ethical and responsible alternative to the waste intensive linear paradigm. The paradigm involves design, make, use, reuse/repair, recover/recycle. It is better to fix the problem before it is late when all resources are gone deplete. Rapidly growing consumption demands and diminishing scarce natural resources only indicate towards the inability of the market to meet consumer demands in the future (Lacy & Rutqvist, 2015).

2.3.3 CE Business Models

Circular economy is a compelling business case of sustainability of which integrated disclosure and waste management prove to be pivotal in ensuring safeguarding environment and promotes ecological economy paradigm. The potentiality of CE to increase economic growth by 1–4% over the course of a decade not only presents new business opportunities but also is sufficient to meet the needs of the growing world population. The rise of the middle class along with a considerable increase in its share of wealth pose a multi-dimensional threat made up of an increase in CO₂ emissions, waste production and resource depletion (ING, 2015).

CE strategies can be implemented in different stages of CE business models from designing, manufacturing and procurement to waste collection and management. The most notable CE business models are: (1) Circular supply-chain which

are renewable, recyclable or biodegradable; (2) Resource recovery through recycling and upcycling services; (3) Product life extension via repairing, upgrading, remanufacturing or remarketing; (4) Sharing platforms which promote value creation by forging new relationships and business opportunities for consumers, entrepreneurs and companies who rent, swap, lend their idle products; (5) Product as a service to enhance product longevity and reusability to cut production cost (Lacy & Rutqvist, 2015). The variation of CE business models necessitates multiplicity of forms of capital financing as different forms of CE business models involve different levels of risks and requires different forms of capitals as a result. Not to mention some models require punctuality on the timing of cashflows, which emphasizes the importance of creditworthiness. Finance ability of CE business models can be increased through value creation in secondhand markets and to account for the value of a product at the end of the life cycle. Overall, the major financial implications of the transition to CE may include balance sheet extension, increased working capital and increase credit risks in some CE business models (ING, 2015).

2.4 The Idea of Circularity from Islamic Perspective

According to Chapra (2008), a rise in income and wealth through development is necessary for the fulfilment of basic needs as well as the realization of equitable distribution of income and wealth. This is in line with *Shari'ah* but not sufficient to realize the comprehensive vision of human well-being. Fulfilling the spiritual and the non-material needs (such as environmental and social needs) is equally consequential as the economic needs are not only to ensure true well-being but also to sustain economic development over the longer term. If all these needs are not taken care of, there will be a lapse in well-being, leading ultimately to a decline of the society itself and its civilization. The satisfaction of all these needs is a basic human right and has been addressed in Islamic literature under the generic term '*Maqasid al-Shari'ah*'. Therefore, through *Maqasid al-Shari'ah approach*, Islam promotes social cohesiveness and growth in economy through ethical and rational expansion and safeguarding the nature (Umer Chapra, 2008). By espousing *Shari'ah* guidelines encompassed under the auspices of *Maqasid al-Shari'ah* we will be able to realize benefits to greater nature and all species and removing any harm which is known as public interest or *maslahah*. In Islam, *Maslahah* rather aims to protect humans, society and the fragile nature. Imam Ghazali, rightly classified that to protect the religion or belief, there are four worldly activities that are important, i.e. safeguarding of faith (*din*), life (*nafs*), lineage (*nasl*), intellect (*'aql*), and wealth (*maal*) (Abubakar, 2016). Among these five *maqasid*, two of them are directly related to conservation of resources, meaning that they call for circular economy model. The objective of preserving posterity ensures that the interests of next generations and their rights to utilize the sufficient resources and proper environmental conditions are preserved, which is the essence of sustainability. The OIC Fatwa on environmental protection declares that it is impermissible to undertake any activity that unleashes harm on

the environment or destructs the ecological balance (OIC Fiqh Academy resolution number 185).

Similar to the concept of CE, the Islamic notion goes beyond the conventional norm and is more sustainable, exceedingly demanding and profoundly applicable both in terms of theoretical and practical significance. Islamic paradigm encourages healthy business and economic activity in line with *Maqasid al-Shari'ah* element, and that is to sustain the societal benefit with minimum affliction to anyone. CE was established to promote alignment of financial system with sustainable development in a way that it ensures financial stability in the long run simultaneously with enhancing concepts and strategies of natural wealth, and green financing to enable a smooth transition to a low-carbon, green economy. With that in mind, arguably, three points can be drawn from CE, namely: the concept of long run growth rather than short-termism, understanding about inter-generational equity in the use of natural resources, and restricting as far as possible the pollution level for maintaining the quality of environment. These concerns are the hallmark of *Maqasid al-Shari'ah* and creation in a fine balance (*mizan*).

Shari'ah connotes that the world is created in a fine balance, where the humanity was selected as the stewardship of the Earth and its resources in trust from the Almighty creator: “*He has raised up the sky. He has set the balance so that you may not exceed in the balance: weigh with justice and do not fall short in the balance.*” (Quran 55: 7–8).

With this trust in humanity's reason and moral responsibility comes a duty to act as guardians and protectors of the environment. Human beings are under the obligation of conservation and sustainable use of the earth's resources for the benefit of present and future generations. However, the current rate of climate change cannot be sustained, and the earth's fine equilibrium may soon be lost. Financial systems should not be influencing practices which result in environmental harm or financial loss to external stakeholders beyond those who have voluntarily put their capital at risk. Rather, a moderate and balanced approach should be adopted that does not breed inequality, depletes resources and destabilizes the ecological balance. As the result the natural setting of the *mizan* is compromised (Shogren & Toman, 2010).

The concept of *mizan* does not only relates to the alignment of the financial systems and business models with CE, but also with the Paris Agreement and the Sustainable Development Goals (SDGs). For instance, a number of SDGs are incorporated in the concept of natural equilibrium and balance of the eco-system. SDG 2 (zero hunger, food security, and sustainable agriculture) is manifested in maintaining equilibrium in the quality of agricultural lands, improving productivity, and avoiding food waste. Similarly, upholding natural harmony and preventing waste promotes healthy living and well-being (SDG 3) and access to clean water and sanitation (SDG 6), while encouraging responsible consumption and production (SDG 12), and protecting lives on land (SDG 15) and below water (SDG 14). Actions to reduce the effects of climate change (SDG 13) are also dependent on sustaining the natural equilibrium (AlMubarak, 2018) and can be enhanced by CE models.

The objective of preserving the wealth is also particularly relevant in the context of CE from an Islamic perspective. Environmental blessings being the source of most

wealth, if not all, and its sustenance should hence be protected and preserved. There are a number of verses and traditions, which direct the humanity towards care for environment, being the basis of this 'objective'. For instance, a total of 88 verses in 42 Quranic chapters were identified with a considerable emphasis placed on the importance of water resource management and water conservation, environmental justice, plant conservation, biodiversity, sustainability, and environmental stewardship (Aboul-Enein, 2018). Creating an economy that best suits preservation of nature and environment, is hence in turn a legal requirement of Islam. It is in the best interest of human being to be careful towards the abuse of earthly resources, for himself and for the generations to follow. It is in a hadith that the Prophet (peace be upon him) said:

“There is no Muslim who plants a plant or sows a seed and a bird, or a person, or an animal eats from it, but he has charity with it”.² This hadith is generally understood as a call for preserving of nature, which is correct. Yet, it should also be seen in an economic perspective that the hadith calls for continuity of life and resources on earth in its natural life cycle. Today, in the linear economic model, the nature of usage is such that the resource is used for oneself only and that too for an excess desire. Rather planting a plant or sowing a seed, metaphorically the plants and seeds (resources) are over-extracted and utilized, leaving nothing for the mankind in the near future or for the other creatures.

The objectives of Shariah pertaining to wealth and life prescribe the consideration of the *fiqhi maxim*, which states that “the necessity must be assessed and responded proportionately”. Thus, the response to the needs should be proportionate and holistic aiming at preserving the resources and keeping it available for the generations to follow and their needs. Another *fiqhi maxim* which censure linear economy is “there must be harm nor retaliation for harm”.³ The harmful side of linear economy model has only corrupted the mindsets of the materialist individuals by feeding whatever is their wants, by hook or crook. It has disrupted the environment, the people’s mindsets, and the resources for the following generations. Quran reprimands saying: “*And cause not corruption upon the earth after its reformation*” (Quran: 07:56).

The Quranic recommendations of moderation and balance in worldly pursuits are intended to support the Islamic concept of sustainable development. Such a way of moderation and balance in production and as well as in consumption will show its benefits and will send a positive message to humanity that such a framework is imperative to produce an equitable economy, a better society and a world that is worth living for present and future generation (Hassan, 2006). In Chap. 25, verse 67, we have a Quranic definition of moderation as the “just mean”, in between the extremes of prodigality and miserliness. In 26 and 27 of Chap. 17, Satan is described as “wasteful” and “ungrateful,” and so, an implicit connection is made between his disbelief on one hand, and his ungratefulness and wastefulness on the other. Quran urges us to avoid the prodigal (who cause corruption upon the earth) (Quran 26:151–152), and the miserly (who enjoin people to be miserly) (Quran, 57:24). An implied

² Al-Bukhari, Sahih, No. (2320).

³ Ibn Majah, Sunan, No. (2340).

connection is thus made between wastefulness and corruption, where extravagant consumption and luxury are believed to have a corrupting influence on our souls and the earth (Reda, 2018).

The insistence of Shariah on preservation of the progeny manifested in CE models is intended for ensuring inter-generational equity in the distribution of wealth and prosperity, conservation of resources, and sustenance of the environment, all links of one chain. For example, the Prophet (peace be upon him) prohibited cutting trees around Madinah and restricted Muslim army from bringing harm to the trees especially those which are fruitful. Umar, during his caliphate, refused distributing conquered lands in Iraq among the soldiers for the sake of future needs of the Ummah (Hasan, 2006).

Safeguarding of intellect is equally important to safeguarding of wealth and lineage from *Maqasid al-Shari'ah* perspective in the quest of shifting economy from linearity to circularity. Safeguarding the intellect enhances the ability of the society, as consumers and producers, to resist pollutive influence in business decision making. From a producer's perspective, Islam emphasizes on depriving and defying the conventional wisdom which focuses on short term returns at the cost of long-term value creation which results in marginalization of social and environmental effects and ultimately dampen economic growth on the long term. The Shariah has not set a ceiling for profits nor has it condemned profit maximization motive in businesses, however, it should not be on the expenses of the society or the environment. Moderation and balance are Shariah guidelines in businesses to support the Islamic concept of sustainable development which is also the mandate of CE.

As consumers, a balanced consumption of resources is in line with the circular economy model. Once the prophet saw one of his companions, Saa'd bin Abi Waqqas, using a little excess of water while performing ablution, which is an obligation for acceptance of prayers. He outrightly advised the companion against this mistake saying, "What is this extravagance, Saad?" Since it is an obligation and not one of his desires, Saad asked how can there be an extravagance in ablution? To it Prophet replied: "Yes, even if you are beside a flowing river"⁴ This is a direct regulatory text that the resource even if it is abundantly present for use, should be used as per the need only.

The concept of CE encompassed in the Islamic paradigm has the potential of paving a way to the creation of a responsible system of production and consumption. The system would be concerned about the wellbeing of the producers, consumers, the quality of the environment and social welfare.

⁴ Al-Nasa'I, Sunan, No. (425).