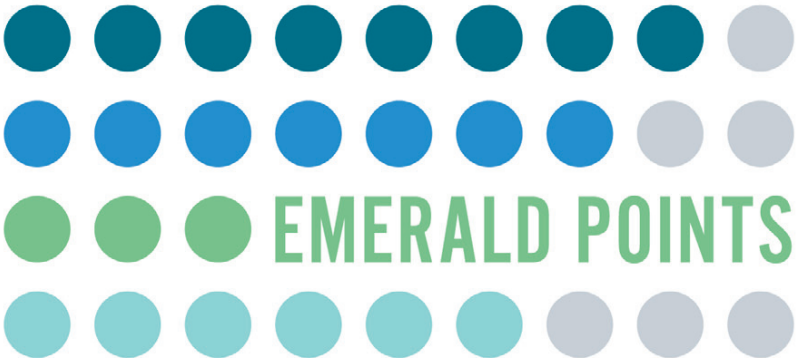


TRANSFORMING SOCIAL MEDIA BUSINESS MODELS THROUGH BLOCKCHAIN

Nitin Upadhyay



TRANSFORMING SOCIAL MEDIA BUSINESS MODELS THROUGH BLOCKCHAIN

This page intentionally left blank

TRANSFORMING SOCIAL MEDIA BUSINESS MODELS THROUGH BLOCKCHAIN

NITIN UPADHYAY

Goa Institute of Management, India



United Kingdom – North America – Japan – India
Malaysia – China

Emerald Publishing Limited
Howard House, Wagon Lane, Bingley BD16 1WA, UK

First edition 2020

Copyright © 2020 Emerald Publishing Limited

Reprints and permissions service

Contact: permissions@emeraldinsight.com

No part of this book may be reproduced, stored in a retrieval system, transmitted in any form or by any means electronic, mechanical, photocopying, recording or otherwise without either the prior written permission of the publisher or a licence permitting restricted copying issued in the UK by The Copyright Licensing Agency and in the USA by The Copyright Clearance Center. Any opinions expressed in the chapters are those of the authors. Whilst Emerald makes every effort to ensure the quality and accuracy of its content, Emerald makes no representation implied or otherwise, as to the chapters' suitability and application and disclaims any warranties, express or implied, to their use.

British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

ISBN: 978-1-83867-302-4 (Print)

ISBN: 978-1-83867-299-7 (Online)

ISBN: 978-1-83867-301-7 (Epub)



ISOQAR

REGISTERED

Certificate Number 1985
ISO 14001

ISOQAR certified
Management System,
awarded to Emerald
for adherence to
Environmental
standard
ISO 14001:2004.



INVESTOR IN PEOPLE

Dedicated
to
Avatar Meher Baba



Indebted to your love Shalini, Meherika and Brownie.

CONTENTS

<i>Biography</i>	<i>ix</i>
<i>Preface</i>	<i>xiii</i>
1. Social Media Business Model	1
2. Blockchain	15
3. Challenges and Opportunities	31
4. Blockchain Value Proposition	37
5. Blockchain-based Social Media Enterprise	55
<i>References</i>	<i>77</i>

This page intentionally left blank

BIOGRAPHY

Dr Nitin Upadhyay is a researcher, inventor, innovator, consultant, leader, coach, academician and a prolific writer. He is an influencer and a regular contributor as ‘Bloggist’ to *Times of India*, *Economic Times* and *India Times*. He is a Fellow of the prestigious Royal Society of Arts London and Fellow of Institute of Engineers (I). Over the years, he has engaged with select top Fortune 500 companies. He is a leading authority and speaker on innovation, design, cloud, blockchain, computing, big data and analytics, future technology and user experience. He is currently working in the area of information technology and is a core member of the Big Data Analytic programme, Goa Institute of Management, India. He is also the Chair and Head of the Centre for Innovation and Digital Business Innovation at Goa Institute of Management. He has wide industry, academic, consultancy and research experience and is a member of Board of Governors and an Executive member and Chair of Cloud SLAs (service-level agreements) for the Cloud Computing Innovation Council of India. He has worked with Samsung Advanced Research at South Korea and Bangalore for many flagship projects and drove whole gamut of innovation.

He is an Expert in the Board of Panel of Experts for Startup Promotion Cell (SPC), Department of Information Technology (DIT), Government of Goa, to assist the SPC in

materializing Goa Startup Policy vision to make Goa one of the most preferred start-up destinations of India and make it feature in the top 25 start-up destinations in Asia by 2025. As a startup coach, he provides innovative insights, roadmap and action plans for successfully materializing innovative process and new products. He is a founder and CEO of SkillTix, a company with a vision ‘to shape peoples future by providing “right” skill set and establishing core competencies’.

He has contributed 100+ peer-reviewed publications/presentations/posters/talks and 12 books. He has contributed to best ideas/patents/inventions/innovations. He is associated with various journals and societies of repute as Deputy Editor-in-Chief/Editor/Editorial Board Member/Reviewer/Member.

He is the father of the phenomenon ‘CABology’ that all the GEN-X/Y/Z are witnessing. His books *CABology: Value of Cloud, Analytics and Big Data Trio Wave* with Springer Nature Palgrave Singapore and *Big Data Management and Analytics* with Cengage publications are already taking a toll on the knowledge and business space and positioned as Amazon’s Best Sellers Category. His coauthored book *Cloud Computing Innovation in India: A Framework and Roadmap*, published by IEEE-Standard USA, has already set the benchmark for the industry, government and academia to embrace cloud computing innovation.

He has received many awards and recognition nationally and internationally. He is listed in the Who’s Who in the World, Who’s Who in the Asia, Top Innovators of the World (IBC Cambridge) and received multiple awards such as Best Professor in Information Technology Studies, Research Shepherd, Star Researcher and Innovator, Outstanding Scientist, IEEE Conference Guest of Honour, Lifetime achievement award USA, Best Research (South Korea, Intl. Conf.).

He paints on canvas (acrylic/oil) and has exhibited his paintings to the wider audience and private art shows (Spain-Madrid and South Korea). He has sold/donated more than 100 artworks nationally and internationally. On the outset, he participates in marathon, plays guitar, contributes to literary corpus and is also a voracious reader.

This page intentionally left blank

PREFACE

The emergence of the Internet has impacted the way that we interact and perform business transactions. There is no business that is virtually untouched by social media. Social media has been democratized such that it is no longer the choice for the business but a necessary strategy. Most of the times, businesses are unclear about the strategic advantage and value proposition of the social media landscape. Thus they are unable to build the capability, brand, relationships and goodwill thereby constrained to contribute to increased efficiency, performance and productivity. Many web and mobile applications facilitate the dynamic interaction of the worldwide community. Web 2.0, as we all know has given the place for the social media platforms, is a continually evolving and expanding domain. The advancements in the Internet of Things, high-end infrastructure, smart devices and smart platforms have been able to provide an inclusive and immersive experience and different levels in participation and collaboration. The world is not restricted to Facebook, Twitter, LinkedIn, WhatsApp, Instagram, Snapchat, etc., but the choices are many, and the implications of each application bring new opportunities and possibilities for the businesses. No matter which segment of the business you are working with, chances may happen that the adoption of social media poses several risks such as reputation management,

information asymmetry, information provenance, integrity and reliability.

The current social media platforms have the ‘centralized focus’, and the administration and control of the content thereby lies with the centralized agency. Integrated usage of social media to deploy a unified strategy that can bring participants experience to the forefront is missing. All social media platforms are centralized focused and support the restricted sphere of reach and engagement. The early movers will get the advantage to redefine the social media and innovate with the blockchain to develop new-edge social media community.

The social media enterprises need to push technology at the platform level to achieve the best performance out of it. Further, the boundary of the organizations will get affected due to the intrinsic components of the peer-to-peer participation and consensus mechanisms of the technology. However, the proper intersection of the technology, market and organization towards a unified growth strategy will pave the way to adopt and include blockchain to redefine the social media enterprise.

The book adopts the coherent approach to define the changing landscape of social media enterprise. The readers will be exposed to the utility of the blockchain in redefining the social media enterprises. The future social enterprise economy will be transformed to the distributed network of trust and ownership, where the participants can get involved in the social transactions over the blockchain network by just having the Internet connection and the social media applications. Moreover, blockchain technology, when integrates with social networks, provides a platform for self-executable social codes to make possible all sorts of social interactions.

SOCIAL MEDIA BUSINESS MODEL

Social media platforms have become hugely popular and involve people's participation in content know-how. In this chapter, readers will understand the changing landscape of social media platforms.

INTRODUCTION

The transaction is not a new phenomenon. Human societies have always considered and observed it. The first mystical transaction between Adam and Eve unfolded the realities of the world. Perhaps one can argue the significance of the instigator to trigger the transaction, but we must understand that the transaction happened between two people accepting the consequences of the transaction. Transactions are the fundamental unit for the people and community to interact, communicate, converse, collaborate and co-exist (Agnihotri, Kothandaraman, Kashyap, & Singh, 2012; An & Weber, 2015). The changing dimensions of the social interact interface have given rise to many technology-driven ecosystems, and Internet is the prime.

The emergence of the Internet has impacted the way that we interact and perform business transactions. When Internet got commercialized, people were quite apprehensive about its capability and applicability. Most parts of the world had limited access to participate in the World Wide Web network. As suggested by the researchers, the adoption of the technology follows a bell curve, which was very well applicable to the Internet (Anderson, 2006; Bjørn-Andersen, Rasmussen, & Rasmussen, 2009). The 1990s era had few adopters – innovators and early adopters, and they experimented in a variety of ways by rolling services and solutions over the World Wide Web.

Social media has been democratized such that it is no longer the choice for the business but a necessary strategy and added dimensions to achieve competitiveness (Baghdadi, 2013; Bechmann & Lomborg, 2013). In a recent report by McKinsey, it has been identified that the contribution of social media to business could range between \$900 billion and \$1.3 trillion. Enterprises are now exposed to so much potential of social media and have a vast opportunity space to leverage and build a competitive advantage (Ballantyne, 2014). However, the only source to added value is not only the inclusion of social advertisements and campaigns but also having a proper strategic composition of collaborations and cooperation within and across the industries. Most of the times, businesses are unclear about the strategic advantage and value proposition of the social media landscape. Thus they are unable to build the capability, brand, relationships, and goodwill thereby constrained to contribute to increased efficiency, performance and productivity.

There is no business that is virtually untouched by social media. It has provided great potential, which was earlier untapped, to reach to the masses, persuade them about their products and services (Berthon, Pitt, McCarthy, & Kates,

2007). Moreover, businesses have outgrown their presence and brand imprint significantly. Social media has given rise to the dynamic global community to contribute, collaborate and cooperate, through the Internet. Many web and mobile applications facilitate the dynamic interaction of the world-wide community. Web 2.0, as we all know has given the place for the social media platforms, is a continually evolving and expanding domain. It improvises and makes social media applications more user-friendly. Conventionally, the participants were restricted to view the content of the business on their websites. But, now in the cyberspace, people can comment, share, like, discuss, collaborate and generate their content. For the business, such engagement touch points are turning as treasure points. Business could understand more about their products and services from virtually everywhere.

SOCIAL MEDIA IN BUSINESS

Myriad applications contribute to the success of social media (Butterfield, 2003; Enders et. al., 2008). The advancements in the Internet of Things (IoT), high-end infrastructure, smart devices and smart platforms have been able to provide an inclusive and immersive experience and different levels in participation and collaboration (Choi & Varian, 2012). The world is not restricted to Facebook, Twitter, LinkedIn, WhatsApp, Instagram, Snapchat, etc., but the choices are many, and the implications of each application bring new opportunities and possibilities for the businesses. Sharing of one's augmented avatar on the new iPhone XR or a live message on Samsung Note 9 brings impeccable experience to the participation. The connected devices are breaking the physical proximities and allowing the different world to meet and provide an incredible experience. The social media platforms and applications of

today's era are pushing the dynamic global community not just to come closer to collaborate, cooperate and participate but to get immersed in the environment.

Businesses can take optimal benefit by using single or the combination of social media applications (Chen, 2009). With the ever-increasing demand on the added value features integrated with the new technologies, it has become quite a challenge to the businesses. They need to understand the scope, feasibility and potential of using the next-generation social media platforms and applications (Chesbrough & Rosenbloom, 2002). Though social media provide countless opportunities, let us know how we can leverage such opportunities systematically. There exist five ideal opportunities (Kunz & Werning, 2013; Tuesta et al., 2015; Wang, White, & Chen, 2015), [Fig. 1.1](#):

Global market presence: No matter where you run your business and which market you operate on, social media provide unprecedented channels to make you reach to virtually everywhere.

Moreover, by utilizing search engine optimization techniques, one can become visible on the giant web. The higher visibility one has on the Internet, the higher market presence and business opportunity one may expect to have. Social media helped Groupon to increase its business manifold, and in just five years enabled it to reach to 12 billion dollars' worth value. Groupon became the global brand and got transformed by social media.

Groupon reconfigured the industry by including social media to expand its discounted coupon offers to the vast array of customers. These offers usually are for a limited time, and thus optimal numbers are required to redeem the offers. The blend of social media in the marketing of coupons guaranteed Groupon to expand the business and also to attain customer segments.



Fig. 1.1. Social Media Opportunities.

Communication: Business players can achieve affordable communication by appropriately using social media strategies. It can be used for both formal and informal discussions. The company employs the former, and the employees adopt the latter to channelize the communication. Social media applications can amplify informal communication structure, and people can leverage it for sharing project goals and artefacts, and gaining efficiency and knowledge. Moreover, social media applications result in diversified communication as it allows a different type of media to be shared and utilized. Companies like Salesforce.com and Cisco have strategically introduced social media into their respective business. To keep abreast about their product offerings and an edge on training

capabilities, Salesforce.com started utilizing YouTube videos to train customers resulting in cut down of efforts of worth several 100 salespeople. Cisco deals with a variety of social media platforms to connect with different stakeholders. It utilizes almost 31 blogs to cater to audience covering information about the company, offerings, products and many more.

Moreover, it utilizes Facebook fan pages to spread solutions, offerings, services and relevant information. It also takes advantage of Twitter in expanding its customer base. Flickr has also been used by Cisco to cover photos of products, events and offerings.

Community presence: It is effortless to build the virtual community without the time and space barrier. Social media applications provide various ways by which people can come together to discuss, debate and share topics of common interest. For example, LinkedIn provides the professional community to come together and share concerns and solutions relevant to the group. Business can strategically identify the subcommunities and influencers in the communities. Channelizing offerings, services and solutions through the influencers help in boosting the profit margins and growth.

Collective intelligence: It is an utmost vital part to manage, control and administer the collective knowledge build by the social media stakeholders. As more and more people join the communities, participation in communication results in the knowledge corpora. Businesses can get insights about their product and services and also gather the competitors' business product portfolio. By working on the knowledge corpora generated through the social media communities, a business can get at the edge to compete and perform. Starbucks strategically build products, services and offerings based on collective intelligence. It runs a Facebook fan page and also maintains the MyStarbucksIdea website to collect ideas from

the potential consumers. The collective intelligence through social media applications helped Starbucks to acquire more customers, develop insightful experiences, produce useful offerings and execute social responsibility projects. Coca-Cola 'Freestyle' vending machine showcases more than 100 options of flavours. The customers get a chance to mix the flavours, taste it and share the experience with their friends on social media. Such kind of insightful details helped the company to launch new and innovative products. Cisco organized a billion-dollar ideas competition, which resulted in contribution from 3,000 participants from 157 countries generating 800 ideas. The winner bagged the 250,000 dollar price. The social media boosted the billion-dollar idea to Cisco, as it costs approximately 321 dollars per idea to yield a billion-dollar business.

Collaboration: The most powerful feature of the social media application is collaboration. It provides various ways for the people to collaborate both on personal and professional fronts. There is a proven track record where communities came forward and have worked together and collaborated on a successful sustainable project like 'Conserve Forests'. Accenture is a global consulting, technology services and outsourcing company employing more than 200,000 employees worldwide. It has built an interactive collaboration platform utilizing Facebook and LinkedIn to connect and collaborate to run, manage and execute projects.

No matter which segment of the business you are working with, chances may happen that the adoption of social media poses several risks. These risks such as reputation management, information asymmetry, information provenance, integrity and reliability, visible and invisible reach impact the business. Some risks are tied with the core of the organization, i.e. its DNA, but some could be tackled through the technological interventions. Some companies are closed-culture, as

they do not believe in sharing and disseminating the information. Thus, they are the one who gets hugely impacted by social media adoptions. For them, it is essential to have a common language and goal for social media communication. Further implementation, integration and interoperability issues need to be tackled to facilitate convergence between different social media platforms and enable data portability.

NEW SOCIAL MEDIA

Interestingly, yesteryears' social media have fed us lots of information. Some were useful, but many were hit by unreliable, poor quality and integrity, untraceable, low credibility and unethical issues. It is a time to develop frameworks and standards to manage, control, administer and regulate the aspects of social media. Regulations to be governed by the appropriate usage of AI and data-enabled technologies.

Moreover, the focus needs to shift from the centralized control, where one central authority controls the aspects of social media, to peer control where the participating peers take the ownership and controls for their actions (Casey & Vigna, 2018). We should have the mechanism to agree collectively on the credibility and integrity of the right information. Each of the contributors should get the reward for the contribution rather only one central authority like Facebook or Google gets all the revenue from the people's contributions. Besides, trust in the information dissemination on social media is crucial. Social media need to play an active role in ensuring that the information and the source provided are accurate, credible and authentic to avoid any misinformation.

The IoT has become an integral part of human society, and the man-machine duo is contributing to the exponential