

Management for Professionals

Sandhya Shekhar

Managing the Reality of Virtual Organizations



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Managing the Reality of Virtual Organizations

Sandhya Shekhar
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Chennai, TN, India

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To my parents

Whose actions have epitomized the prayer

Sarvey janaaha sukhino bhavantu

(May all of humanity be happy)

Foreword

The world of the modern corporation is one in which it pursues market opportunities in multiple locations worldwide and also seeks to source talent from many different locations worldwide. Management located in a head office in one country has to learn to manage customer groups and supply groups as if they were next door, in other words “virtually”. A simple example of this is a company which used to sell its products from a familiar physical store that customers could walk up to, changing its sales model and resorting to selling its products through a website which acts as its “virtual” storefront. A second example is when a company locates a Research and Development centre in another country, but the management challenges that this brings about may not all be due to the physical distance – it may be brought about by cultural differences. In other words, says the author, the challenges in maintaining your virtual organization may lie in a wide range of “distances”, some geographical, others cultural, social, time zone and so on.

The author points out that the real reason why organizations create virtual counterparts is when they attempt to grow, either organically or inorganically. Virtualization of businesses normally happens when they decide to move activities from the physical to the virtual in an attempt to achieve greater scale or to save costs but whatever the reason they have to work seamlessly with the parent. Thus we have today E-retail, E-banking, E-learning, E-government and so on, and the virtual component could be joint-ventures, subsidiaries, collaborators, outsourcing partners, etc.

Such virtual organizations are not a mere intellectual curiosity, as anyone who has watched the world’s perception of India changing from that of a land of snake charmers and poverty-stricken individuals, because of the sudden rise of India’s information technology outsourcing industry. From a non-existent state in the early 1990s it started clocking an annual revenue in excess of \$50 billion by 2010, it employed by then a couple of millions of software engineers directly and accounted for more than 5 % of the GDP of India. The industry’s rise was so sudden that even today, the larger meaning of the emergence of this outsourcing phenomena, why some companies succeeded in it and others did not, is not fully understood. Most observers attribute India’s success in this field to the availability of large numbers of low cost English-speaking computer engineers. Others like *The New York Times* writer Thomas Friedman in his book *The World Is Flat* have drawn attention to this phenomenon from another angle: how the collapse of the Berlin Wall and the arrival

of web technology have created worldwide supply chains using outsourcing, off-shoring and insourcing and have created forms of organizations different from what the world knew before.

This book is the first deep analysis of the factors that account for the success or failure in efforts to get work done in a location far from where an organization's main centre of gravity currently lies. The exact structure of this kind of remote work may on the one extreme be one where the organization establishes its own fully owned and managed operation in a remote country or, at the other extreme, be one where the organization subcontracts parts of its operation on an arms-length basis to a third-party or anywhere in between these two extremes. And, unlike many other books that have been written on this topic, the author has based her conclusions on actual in-depth interviews of about 1000 people in six organizations, two in the technology space, two in geosourcing and two who have relocated highly knowledge intensive services. The organizations ranged in age from 1 to 30 years and range in employee size from 2000 to 348,000.

But, what exactly is a “virtual” organization? Or is it that every organization has some degree of virtuality in its functioning and only if it crosses a certain degree of virtualness does it qualify to be certifiably virtual? The author examines these questions and also tries to relate this concept of virtualness to that old management theory warhorse – The Resource-Based Theory of the Firm.

What makes this book a good candidate for use in classroom teaching in management schools is the author's Virtuality Model, a framework to understand virtuality in varying organizational contexts. Practitioners will also find this concept useful in figuring out how to tailor their virtualization initiatives.

While many companies encounter the challenge of virtualness when they set up joint ventures in countries physically far from their own original locations, they tend to blame physical distance as the main challenge. To understand this, she examines the case of the apparently unbeatable Walmart's disastrous foray into Germany, the sizeable number of failed joint ventures in India between top of the line international players and top of the line Indian companies, among others and concludes that there may be many different types of “distances” at play there other than mere physical distance that separates them and the “virtual” organization, the joint venture, that they have set up.

The author concludes from her research that in effectively managing geographically dispersed but virtually connected organizations that problem-free knowledge and technology transfer is key to successful operations. To measure the effectiveness of this process, the author proposes a process-based Knowledge Transfer Effectiveness Index which is a psychometric scale based on the perceptions of the employees and knowledge-workers involved. A quick glance around will make us realize how quickly this virtualization movement has descended and engulfed us. We nonchalantly draw cash from an ATM (a virtual bank branch – not so long ago we stood in queue for a grumpy cashier to dole out our cash), online purchase of train and air tickets (virtual booking offices), not to mention online shopping and, soon to come, online education on a mass scale.

This book provides conceptual frameworks and simple tools to diagnose and deal with the complexities of managing geographically dispersed, virtually linked organizations. Specifically, it explains how to assess the degree of virtuality and provides guidance on how to recognize, localize, measure and address physical and virtual distances. It also describes a customizable model to measure knowledge transfer effectiveness and offers diagnostic tools to make dispersed organizations function smoothly. It proposes several new constructs that should provide insights for managers of virtual organization to proactively identify potential issues and increase the probability of success.

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Ajit Balakrishnan

Acknowledgments

This book owes its origin to the joys of having worked in the empowering environs of a few Virtual Organizations that prompted me to start thinking about the immense possibilities of this great phenomenon. I am grateful for the opportunity. Much of the work related to the book has been built on the foundation laid during my doctoral research at IIT Madras. My advisor Prof. L. S. Ganesh not only gave me complete freedom to explore, during those early days, but also continued to urge me in later years to build on that initial work. This book is a culmination of that effort. I am deeply grateful to him for being the catalyst, and also for his feedback on the book.

My sincere thanks to Mr. M. A. Yusuffali, Managing Director, Lulu Group International, Mr. N. K. Ranganath, Managing Director, Grundfos Pumps India, Mr. Rajeev Menon, Chief Operating Officer, South East Asia and Pacific and Mr. Andrew P. Newmark, Vice President Human Resources, South East Asia and Pacific, Marriott International, for the time spent by them and their teams to provide insights on the amazing stories of their organizations. The in-depth research that has anchored this book was feasible due to the remarkable support of six global organizations – a global financial institution, a global logistics company, two technology companies and two IT services organizations. Together they have invested over a thousand man-hours of their organizations' time, in addition to a generous amount of top management time and commitment, besides providing access to organization data. I have chosen not to name them explicitly, given the sensitive nature of the information. I am grateful to each one of them for their unstinted support. I am also grateful to the 30 organizations that participated in the preliminary research and the participants of the CEO snap poll.

I consider myself extremely fortunate that Mr. Ajit Balakrishnan, the pioneer of what might arguably be the first truly virtual organization in India, has written the Foreword to this book. As the Chairman of the Board of Governors of IIM Calcutta, he personifies the confluence of the academic and industry fraternities that this book attempts to target. I am truly humbled by his gracious and immediate acceptance to write the Foreword and his discerning perusal of the manuscript.

Prof. M. S. Ananth, former Director, IIT Madras, has provided the kind of feedback on this work that only the finest teacher can. I am extremely grateful to him for the same. I owe a deep debt of gratitude to my father who painstakingly proofread my entire manuscript. His positivity and sage advice kept me going even during the

times when I felt overwhelmed by the magnitude of the task. It is a pleasure to acknowledge the contribution of Sagarika Ghosh, Executive Editor, Springer, for she not only persevered to get me to write this book, but was also a valuable interface with the publishing team.

This work, like most of what I have done in my life, would not have come about without the extraordinary support of my wonderful family. May I simply say a humble thank you?

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About the Author

Sandhya works in the area of Knowledge and Innovation Strategies. Her recent work focuses on helping organizations manage the challenges of global dispersion while leveraging market and innovation opportunities by extending organizational boundaries. She has worked at the confluence of industry and academic fraternities helping to build innovation ecosystems, in her former role as the first CEO of India's first University Research Park. She also has extensive industry experience, having worked as Director, Asia Pacific Consulting, Gartner; CTO, BconnectB.com; Head, Knowledge Management Research, Aptech Ltd.; and Group Consultant, NIIT Ltd. She did her management studies at the Indian Institute of Management, Bangalore. She earned her PhD from IIT Madras, with her dissertation winning the award for outstanding doctoral research from the European Foundation for Management Development and Emerald. She currently serves as an independent director on the Boards of Bimetal Bearings Ltd. and IP Rings Ltd. She also serves on several advisory boards.

Abbreviations

ANOVA	Analysis of Variance
BPO	Business Process Outsourcing
ICT	Information and Communication Technologies
IT	Information Technology
ITES	Information Technology Enabled Services
KT	Knowledge Transfer
KTE	Knowledge Transfer Effectiveness
MOOC	Massive Open Online Courses
SIG	Special Interest Group
SMAC	Social media, Mobility, Analytics, and Cloud
SoI	Strength of Interconnect
VIP	Virtual Interface Points
VT	Virtual Team
VO	Virtual Organization

Prologue

There is something that has made a very tangible and significant impact on the quality of much of my personal and professional life. No, that “something” is not spiritual, philosophical or anything else as esoteric. As incredible as it may sound, it is the phenomenon of Virtuality. Even before the Internet became fashionable in the early nineties, I could work out of home while attending to my little infant, thanks to being connected to the virtual private network of the organization I worked for. Many years later when this infant transformed into a young adult, her virtual presence has helped me cope better with the empty nest syndrome. On the professional front, it appears to have magically liberated the ability to deliver results from being constrained by limitations of individual skill sets. I recall my first day at one of the leading global consulting firms. Within 24 hours of my joining the firm I had to deliver a proposal for what could potentially be a million dollar engagement. Expertise was pooled in from three different time zones, iterated twice to be fine-tuned to the local context and a very professional proposal presented to a large client for a GIS solution, an area I had hitherto little personal expertise in. The organization had effortlessly empowered me into delivering way beyond the limitations of my own skill sets by enabling me to seamlessly connect with the expertise of over 3000 highly qualified research analysts spread across more than 80 countries, not just on this occasion but virtually all the time! The experience was almost metaphysical, where you actually begin to understand what it means to be a small part of one big whole. Virtuality facilitated what would otherwise seem as the mutually exclusive luxuries of working in one’s preferred private space or location and simultaneously working alongside innumerable others. This was done much before the term Virtual Organizations started to appear in the managerial lexicon. The power of this phenomenon never failed to amaze me. It was obvious that there were a lot of factors that made this magic possible and consistently successful. A lot of the enablers for “successful virtuality” seemed to have somehow been embedded into the DNA of this organization. The strange thing was that it was taken for granted. Nobody seemed to pay any particular attention to why it worked. Just as few seemed to notice that it did not quite work effectively in most other organizations. Clearly it required some careful analysis and research to understand whether such an arrangement can be made to work in multifarious other organizations and contexts, given the phenomenal advantages it appeared to provide and the kind of impact it could undoubtedly have. What is more, virtuality is clearly something that can make a

monumental difference to just about every facet of one's life, be it personal, professional or social, if it is intelligently leveraged. It is this belief that has been the motivation for much of my research in this area and for writing this book.

My mentor and the former Director of IIT Madras, Prof. M.S. Ananth quipped in his inimitable style that I had taken my research on virtual organizations so seriously that I had decided to have a virtual husband as well. Indeed, given the realities of modern day professional lives, my husband and I found ourselves working out of two different countries for a significant period of time. There were the obvious operational constraints and challenges in such an arrangement. Strangely, though, the quality of our interactions and the time spent together improved exponentially! However a lot of things had to be re-worked. The sharing of responsibilities, prioritization of activities, travel scheduling and most of all a greater discipline in managing one's life. There was a lot of un-learning and re-learning to be done on the way we did things. There were also factors that were vitally important in making this feasible, a couple of them being mutual trust and a shared sense of purpose. But at the end of it all, I daresay we managed to accomplish much more than if it had been "life as usual". It made me think that if there was so much to be done differently to make this arrangement work on the personal front, surely there had to be major implications for similar arrangements at the organizational level? With globalization, virtuality has become inevitable. But have organizations made the effort to scientifically and systematically understand, what needs to be done differently and how it needs to be managed in order to effectively leverage the enormous advantages that could potentially accrue from this powerful phenomenon? It would appear that this transformation in work format has quietly crept in with such swiftness that organizations have not even realized when it all started and how it has diffused and become inextricably linked to its very sustenance. The irony appears to be that despite a clear awareness of this phenomenon, organizations are dealing with the managerial ramifications rather intuitively. A lot of things are being figured out by trial and error. Success in such an environment tends to become a bit of a gamble. It is my belief that a nuanced understanding of virtual organizations can help unfold scientific ways of managing it and increasing the probability of success in a highly competitive global market place. That Virtual Organizations are here to stay is obvious. What is not so obvious is how to pre-empt and overcome the challenges whilst intelligently using its potential to maximum advantage. This book embarks on this journey of discovery.

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1.1 The Overarching Motivation for This Book and What It Seeks to Address

The symbiotic trends of globalization and technology enablement have created new markets not contemplated before, new competitors from organizations that were nowhere in the reckoning earlier, new partners and collaborators from the most unexpected entities, new possibilities for utilizing human resources in ways never envisaged before, and have opened up endless possibilities of collaborative solutions, previously not apparent. In a number of ways, a Virtual Organization (VO) is **The Great Equalizer**. Technology has enabled even small start-ups in developing nations to have the reach and resources that are comparable to large conglomerates. Success in such an environment is no longer predicated on the quantum of resources and infrastructure alone, but by the manner in which these new possibilities in a physically dispersed but virtually inter-linked world are being intelligently leveraged. However, while organizations have been working with an intuitive awareness of this new phenomenon, it is not adequately supported by a theoretical foundation that can help them manage themselves in a manner that befits the current reality. Organizations, both big and small, are seeking to find scientific ways to deal with both the opportunities and challenges of a virtual world. Larger organizations often find themselves shackled by traditional theories and practices, which cannot be elegantly transposed into this new environment. Smaller organizations on the other hand are looking for early indicators to give them the reassurance that they are headed in the right direction. Despite a few eloquent appeals to understand how Virtual Organizations are transforming Management Science [1], little systematic work has been done to abstract this phenomenon into frameworks that are of immediate practical use. There is a clear need for developing a set of conceptual models and tools where theory can meaningfully start informing practice to aid decision-making in a dynamic environment.

The pursuit of global opportunities, the bid to stay competitive by manufacturing and sourcing from the most viable locations, and the need to scale up rapidly through

new collaborators and partners, have seen an exponential increase in the geographic spread as well as the levels of heterogeneity within organizations. This dispersion of organizational entities inter-linked virtually has led to multifarious manifestations of the Virtual Organization. What are the challenges these organizations face? How do they manage an organization that has suddenly grown into a potpourri of multiple cultures, capabilities and practices? How do organizations manage heterogeneity given the need to grow? Are there ways to measure and manage these differences? Given the vast divergence in the nature of these businesses, is there any common thread that runs through all of them? Is virtuality the common factor and if so, what exactly is virtuality? Just how much virtuality is good? Can a fuzzy concept like the extent of virtuality be scientifically measured? How do organizations find out whether these are yielding the desired results, without waiting for the eventual top-line or bottom-line patterns to come through? How do they decide what goes virtual and what stays physical? Is it possible to assess and strengthen the robustness of a VO? How can organizations learn from each other and even within themselves as they embark on their growth strategies? The questions could go on.

There appears to be a clear need for conceptual models and tools that can be used by organizations regardless of their size, age, maturity, infrastructure, function and domain to aid managerial decision-making both in intra-organizational and inter-organizational contexts. The industry seems to be constrained by the lack of scientific mechanisms to measure and manage both the enablers and outcomes of virtuality. While a significant amount of literature is available on Virtual Organizations, much of it is normative and somewhat ambiguous. The first part of the book will attempt to provide a strong conceptual foundation through some specific models, frameworks and approaches to address the above issues.

The second part of the book will take an in-depth look at what could well be one of the key critical success factors of VOs. The process of knowledge transfer has been recognized as being critical to organizational performance. It becomes even more important in the context of virtual or dispersed organizations, where the process of transfer is more complex because of distances. The distances to be bridged are not merely geographic. In such dispersed organizational arrangements, there are other kinds of distances that have an equally important role to play in determining the quality of outcomes. Some of these are cognitive, cultural, organizational, temporal, social and political distances, as well as distances on account of leadership and trust. An organization's ability to bridge these distances effectively could well determine the success or otherwise of its globalization strategies.

One of the implicit assumptions underlying geographically dispersed virtually linked organizations is that there is effective knowledge transfer across entities in such a manner that such arrangements are viable. This indicates a logical correlation between knowledge transfer effectiveness (KTE) and performance, making it important for organizations to ensure high levels of KTE. However, organizations are grappling with several questions. A few of these are - how can knowledge transfer effectiveness be scientifically measured? Are diagnostic tools available to effect any mid-course corrections that might be required? What kind of course corrections could possibly be warranted - what are the factors affecting the success of

knowledge transfer? Do these vary depending on whether a company has grown organically or inorganically? Given the interplay of numerous factors how does the management decide how to prioritize interventions?

While the first part of the book is largely conceptual, the second part relies on empirical data drawn from the industry as part of an in-depth research study, to derive some important inferences. Through a rigorous analysis of the research data, the book seeks to answer the aforementioned questions. The analysis also produces some counter-intuitive results, the unraveling of which helps to answer some fundamental questions that have been engaging the minds of researchers and practitioners alike. One of the guiding objectives of this book is to enable transposability of learnings. The models described in this book can be contextualized to suit any organization. They enable an organization to be viewed at any granularity of detail. Hence, it becomes easy to compare findings both within and across organizations. The book could provide some important pointers to the managers of new-age organizations, while strengthening the conceptual foundation of this discipline.

1.2 What This Book Is Not About

The biggest enabler for Virtual Organizations is technology. The pace of technological development, the emergence of disruptive technologies, and the confluence of these to create phenomenal opportunities for innovation are all topics that are continuously researched and written about extensively. As tempting as it might be to get into such discussions, this book assiduously attempts not to be lured into the technology terrain as there are several tomes available. Internet and virtual pure-plays are also not discussed in any detail other than recognizing them as a specific manifestation of VOs at one end of the spectrum. It attempts instead to tread the untrodden path, with the focus being on the interplay of the physical with the virtual, the transition from the known to the less known across geographic boundaries and what it entails to transcend different kinds of barriers to make it one seamless whole. It recognizes the fundamental tenet that any chain is as strong as its weakest link. Hence, from a managerial perspective, it is important to pro-actively understand where the weakest links are, and therefore where the biggest business risks could be and determine how these can be pre-empted or overcome. In the metamorphosis from the brick and mortar to the click and mortar, organizations have relied on a combination of professional prescience and experiential knowledge of their managers to handle the challenges. It is hoped that this work will empower intuitive decision-making with some scientific methodologies.

1.3 How This Book Has Been Organized

This book interleaves theory and practice through a graded approach drilling down in a structured manner from a macro-level perspective to a much higher granularity of detail. It starts by providing a bird's eye view of key developments in the industry

leading to multi-faceted manifestations of the Virtual Organization (Chap. 2). This big picture forms the canvas within which the detailed story will emerge. Next, in order to delineate the parameters of this canvas, the book lays a strong conceptual foundation to provide theoretical clarity to help understand this phenomenon better (Chap. 3). With this framework, in place, it is time for a few conversations with business leaders who have been spearheading this phenomenon in different ways in the context of their respective organizations. These provide some representative views on what are the primary motivations for such strategies, what have been the nature of challenges, how have they been addressed and whether there are issues that continue to cause them concern (Chap. 4). These provide the necessary inputs to examine whether there are commonalities in the issues that emerge despite the wide difference in the nature of their businesses. This sets the stage to abstract the learnings from these conversations as well as from several other examples in the industry, and develop another set of frameworks that helps to articulate the major issues that VOs of all forms need to address. It identifies the distances that these organizations need to traverse both literally and metaphorically to get to their goals. Models are evolved to assess the robustness of the VO and identify weak links (Chap. 5). There could be several issues that impact performance in a VO. Industry perspectives are sought again, through an exploratory research, to prioritize the concerns. These agglomerate around issues of seamlessly transferring organizational capability and character (which we encapsulate as ‘knowledge’) across all dispersed entities to deliver the intended value. Strong conceptual models are then developed that can be used to understand and analyze these issues in the context of VOs. Business leaders could argue that they intuitively know what the problems are. What they need to figure out is how to measure the problem intensity in a diagnostic manner and find out where exactly the problem needs to be fixed. The book provides a solution to this and also helps them ‘understand’ what they ‘know’! It develops a multi-dimensional model for organizations to arrive at an index of knowledge transfer effectiveness within and across organizational boundaries (Chap. 6). With this managers can identify and localize the problem. They now need to find the factors that could be leading to the problem. A cross-sectional perspective is obtained using inputs from conversations with business leaders, literature survey and an exploratory research spanning 30 organizations. These are triangulated to arrive at a comprehensive list of possible factors that could impact effectiveness of knowledge transfers and VO performance (Chap. 7). However, this book wishes to go beyond merely helping organizations to recognize, localize and diagnose the problem. It wishes to help organizations identify the interventions that are most likely to yield the desired outcomes. Specific inputs such as these cannot come merely by looking at a few case studies and making some broad generalizations. They need to be based on a higher level of research rigor, with validated instruments designed specifically for this study so that the inferences drawn are reliable and can inform practice in a meaningful way. This sets the stage for an in-depth research, with clearly laid out methodologies and design and covers over 1000 knowledge workers across six organizations (Chap. 8). The data are analyzed for the detailed story to unfold. And the data have some very interesting stories to tell, including revealing some counter-intuitive results (Chaps. 9 and 10). This story finally wraps up consolidating key inferences from the long journey (Chap. 11).