Preface

The evolution of the information and communication technologies (ICTs) triggered the concept of e-society where e-technologies and services are fully integrated into all dimensions of the society. The rise of e-society introduces the ability to synergize people, technology, time and space. It is leading to revolutionize the way to conduct business, commerce, industry, government, healthcare, services, education, etc. and the way people daily lives, organizations and companies are interacting with new everyday IT-based applications. The power of the enabling technologies that support such revolution is reflected by the capability to deal with unlimited amounts of data facilitated by the digitalization of all forms of multimedia information and by the capability presented by the networking and web facilities reaching to any location in the word and in real-time beyond time and physical constraints.

The handbook aims to present and address the research development and evolution issues within the evolving Information Society due to changes and demands. It is important to understand such development, the challenges and the impact of information and communication technologies on the behaviors and processes of individuals, organizations and communities in the context of technological innovation and the evolution of e-Society. Broad areas of interest in the field of eSociety are: eBusiness, eFinance, eCommerce, eConsumer, eGovernment, eServices, eHealth, etc.

This handbook includes 23 chapters that contribute with the state-of-art and up-to-date knowledge on research advancement in the field IT evolution and development and he rise of e-Society. The chapters provide theoretical knowledge, practices, algorithms, technological evolution and new findings. Furthermore, the handbook helps to prepare engineers and scientists who are looking to develop innovative, challenging, intelligent, bioinspired systems and value added ideas for autonomous and smart interdisciplinary software, hardware and systems to meet today's and future most pressing challenges.

CHAPTER 1: KNOWLEDGE SHARING FROM EMPLOYEE'S PERSPECTIVE – SOCIAL RELATIONSHIP, CONTEXTUAL PERFORMANCE, AND IT COMPETENCE

This research combines three less studied factors on employee knowledge sharing, namely, social relationship, contextual performance, and IT competence. The research reveals that both social relationship—which incorporates degree of centrality of employee's social network and frequency of interpersonal interaction—and employee's contextual performance have significant positive impacts on knowledge sharing. Current work extends the literature pertaining to knowledge sharing by, not only providing an enhanced approach to measure social relationship, but also emphasizing that social relationship or contextual performance can magnify the impact on knowledge sharing through a high level of IT competence.

CHAPTER 2: OPTIMIZING KNOWLEDGE-WORK THROUGH PERSONAL KNOWLEDGE MANAGEMENT – THE ROLE OF INDIVIDUAL KNOWLEDGE-WORKERS' MOTIVATION, ABILITY, AND OPPORTUNITY

Knowledge-work is a discretionary behavior, and knowledge-workers should be viewed as investors of their intellectual capital. In addition, effective knowledge-work is mostly dependent on the performance of individual knowledge-workers who drive the success of knowledge-intensive organizations. This study empirically demonstrates that knowledge-workers' behaviors are dependent on their motivation, ability and opportunity to perform knowledge-work activities. This study provides insights and future directions for research on knowledge-work Since personal-knowledge often raise the issue of knowledge ownership, further attention to ethical issues may bring valuable insights for KM in organizations.

CHAPTER 3: A TOOL FOR CREATING COMMUNITY KNOWLEDGE OBJECTS

International organizations and government agencies have developed and collected a wealth of knowledge resources relevant to poor communities. However, electronic sources of knowledge materials and means of communication are rarely integrated with traditional methods of knowledge delivery. This chapter addresses the issue of knowledge sharing with poor communities and presents a software tool for developing multimedia knowledge materials suitable for people with little or no formal education. This is done by having a multimedia editor that uses a data structure composed of multimedia objects (texts, images, video and audio clips) to generate the knowledge browser. This approach enables local specialists with a basic knowledge of computing can modify and customize the presentation of the knowledge relevant to the local environment.

CHAPTER 4: A FAMILY OF INVISIBLE FRIENDS – CULTIVATING A SENSE OF E-COMMUNITY AMONG VIRTUAL WORK TEAMS

Despite the potential advantages offered by e-communities, their formation and maintenance are often hindered by feelings of mistrust, unclear group processes, and limited technical expertise. This study analyzed nearly 2,500 survey responses from 600 students spanning 25 colleges/universities in order to develop practical implications for cultivating a sense of e-community among virtual work teams. Thematic results of the study revealed the significance of brand awareness, interpersonal facilitation, user-friendly design, fiscal barriers, and mobile accessibility. Accordingly, the study concludes with five corresponding implications for cultivating a sense of e-community in the modern workplace: increased integration, expanded physicality, supplemental training, financial entrée, and utilized flexibility.

CHAPTER 5: BUILDING ORGANIZATION IMAGE – HOW TO CONTROL A PUBLIC RELATIONS CRISIS AND COMMUNICATION

This chapter investigates strategies that help an organization rejuvenate its image after damage from ineffective public relation (PR). It is important to know which PR strategies engage stakeholders because it is critical for the survival of company maintaining healthy relationships with all entities. A case study was conducted to explore what ruins a company's image and what role a PR department plays in rejuvenating it. To gain valuable insights into this topic, interviews were conducted with fourteen PR professionals including people who are working in the mentioned case studies places and organizations that faced some crisis. Results suggest that PR plays a critical role during crisis management while organizations can turn adverse situations to their favor and reconstruct reputations that would otherwise be tarnished.

CHAPTER 6: A WEB-BASED SYSTEM FOR SUPPLY CHAIN COLLABORATION TO ENHANCE AGILITY AND FLEXIBILITY

Recently, enterprises increase their competitiveness through supply chain collaboration to efficiently allocate resources using internet. However, supply chain collaboration usually fails because information is usually confidential. Many studies have discussed strategies of supply chain collaboration via internet but only a few of the strategies can be implemented in practice. Therefore, this research builds an information exchange platform to share production and inventory information over internet to ensure on-time delivery. This platform is implemented in a panel manufacturing company and 10% on-time delivery increase with 2% quality improvement after adapting this system. This result demonstrates the usefulness of using on-line platform to immediately share information will improve one-time delivery and quality assurance.

CHAPTER 7: BARAN – AN EFFECTIVE MAPREDUCE-BASED SOLUTION TO SOLVE BIG DATA PROBLEMS

The MapReduce method is widely used as a solution to solve big data problems on distributed hardware platforms. However, MapReduce architectures are inefficient in terms of data locality, network congestion, and low hardware performance. This chapter introduces Baran method that aims to solve these problems. Baran is a method that can dramatically improve performance and solve the data locality problem and consequences such as network congestion and low hardware performance. The Baran method was used for works on data warehouse, graph and data mining problems and the results were promising.

CHAPTER 8: A TALE OF TWO SYSTEMS – ERP IN CHINA: FAILURE AND SUCCESS

With China becoming an economic powerhouse, there has been increasing need for more studies on issues related to information systems localization. Most of the adopted information systems in the literatures have been conducted in the context of Western society, especially in America. Due to differences in the cultural, social, and legal environment, these theories and findings out of these studies need to be tested in the context of Chinese culture. This chapter adopts the technology, organization, and environment framework to explain why a Chinese apparel manufacturing companies failed in its first enterprise resource planning (ERP) project, and how it achieved success in the second project with government's assistance and what they have learned from their first experience with ERP. This study provides insight on the characteristics of Chinese companies, and the unique challenges they have encountered in the informatization process.

CHAPTER 9: CONSUMER VALUE TRUMPS PERCEIVED PRIVACY RISK – ITEM-LEVEL RFID IMPLEMENTATION IN THE FMCG INDUSTRY

This chapter reviews Radio Frequency Identification (RFID) literature within the Fast Moving Consumer Goods (FMCG) industry and the impact of consumer benefits on the perceived risks of item-level RFID. Two new categories are used to measure this impact; the separation of consumers' interactions with the technology to in-store and after-sales allows the consumers expectation of privacy to changes depending on the surrounding environment. A quantitative survey on primary household grocery purchasers within the USA revealed that while consumers are aware of the associated privacy risks after sale, they would be willing to use the technology, given sufficient benefits.

CHAPTER 10: CONSUMERS' CONCERNS FOR REPUTATION AND IDENTITY THEFT ONLINE TRADING

Although online trading with Amazon, eBay, and many others, has its benefits, such as convenience and the ability to compare prices online, there are still many concerns about the integrity of the buyer, the seller and/or the online action service provider (OASP). The empirical section investigated these relationships via multivariate statistical analysis of a stratified sample of working professionals resulting in 198 usable questionnaires from an initial sampling frame of over 550 professional personnel from five relatively large Pittsburgh, PA firms. It was found that buyers that felt feedback systems were viable were more willing to engage in online trading activities and more willing to pay a premium price for merchandise being sold by a seller with a better reputation, regardless of gender. Customers were especially concerned with the total price, including shipping cost, regardless of gender. In terms of the convenience of payment method, electronic forms were preferred in transacting online trading activities, regardless of age and gender.

CHAPTER 11: CULTURE AND INTERNET BANKING TECHNOLOGY – LONG-TERM ORIENTATION OVER THE ACCEPTANCE

The interaction between the cultural value of long-term orientation and internet banking technology acceptance is examined in this chapter. A survey involving a total of 376 potential users was conducted in an internet banking setting in Taiwan. The results confirms previous TAM findings that both efficacy and belief variables have significantly positive direct and in-direct effects on the usage, but under the cultural influence of long-term orientation, users remain hesitant to accept internet banking technology because they are more concerned with face-to-face long-term bank relationships to ensure future gratification than with current social status influence to obtain immediate benefits (e.g., convenience). Practitioners may refer this cultural influence on users' behavior in Fin-tech development. The implications of the study are discussed.

CHAPTER 12: COMPREHENSIVE INTERNET YOUTH PROTECTION POLICES BY PRIVATE ORGANIZATIONS AND EFFECTIVENESS VERIFICATION – INITIATIVES OF THE JAPAN INTERNET SAFETY PROMOTION ASSOCIATION AS A THEME

Seeking a safer Internet environment for minors, the Japanese government enacted a new law in 2008 to promote both protective measures and empowerment activities. Under the act, many entities, including newly established non-profit organizations (NPOs), are working to bring a safer Internet environment to Japan. The Japan Internet Safety Promotion Association (JISPA), one such NPO established in February 2007, has worked to promote a safer Internet environment for minors by providing non-formal learning opportunities through educational materials and events. Efforts to improve children's online safety have evolved from offering e-learning content and guidelines to holding workshops in the real world. This study reports various measures taken by JISPA for the protection of children using the Internet and verifies the effectiveness of the various measures based on evidence. Measures to be verified are e-learning contents, workshop programs and Internet literacies among young people and parents.

CHAPTER 13: PLAY IT LIKE BURBERRY! THE EFFECT OF REPUTATION, BRAND IMAGE, AND SOCIAL MEDIA ON E-REPUTATION – LUXURY BRANDS AND THEIR DIGITAL NATIVE FANS

Some firms and industries were not willing to take full advantage of the Internet and its endless opportunities, mainly because they rather focused on the inherent risks and challenges. However, when taking into consideration the specificities of the connected generation, the question is not anymore whether to go online or not, but rather to understand how, when, and where, especially in a luxury context. More specifically the digital natives represent tomorrow's customers. This new market segment represents a main reason for luxury firms to adopt online strategies. Still, further analysis is needed to uncover the main objectives when firms decide to engage in digital activities. The authors herein investigate the concept of e-reputation. The authors expand on their initial study that focused on brand image and social media as determinants of online reputation. Recommendations and future research directions are suggested.

CHAPTER 14: SOCIAL MEDIA AND MOTIVATIONAL COMPLEXITIES ASSOCIATED IN PROMOTING PROFESSIONAL SOCCER ENGAGEMENT

The purpose of this chapter examines and determines factors that lead to increase television ratings for soccer in the U.S. Undoubtedly, the topic of fantasy sports and the various roles it plays with types of fan involvement and their need for enhanced engagement with a complex social media landscape has intrigued scholars found a number of disciplines. How the various motivational factors, both intrinsically and extrinsically, impact the degree of fan involvement and loyalty have been investigated several times, the overall results have been mixed to say the least. The current chapter primarily focuses on fantasy soccer participation, involvement in soccer, presence of a local professional team, and social media interaction. After providing a brief history of soccer television ratings in the U.S., a conceptual model based on these factors is developed and explained. The factors of this conceptual model are tested through statistical analysis.

CHAPTER 15: ETHICAL DILEMMAS ASSOCIATED WITH SOCIAL NETWORK ADVERTISEMENTS

Significant amount information can be relayed on Facebook, MySpace and Twitter, but the question remains whether or not organizations are using this to their advantage, especially in the era of big data. The present study used a sample of working professionals that were knowledgeable in the various options of social networking to test these assumptions. The three hypotheses dealt with the interplay of online social networking, advertising effectiveness, gender and age trends, and remaining the interplay with positive comments of the use of the 'like' function and its impacts on consumer behavior, as derived from the review of relevant operations literature and from applying the basic tenants of Uses and Gratification Theory. All three specific research hypotheses were accepted in the null form.

CHAPTER 16: STRATEGIC PLANNING FOR INFORMATION TECHNOLOGY – A COLLABORATIVE MODEL OF INFORMATION TECHNOLOGY STRATEGIC PLAN FOR THE GOVERNMENT SECTOR

Information Technology (IT) is strategic for organization management (Stair, R.; Reynolds, G. 2005), although, many companies lack IT governance and planning, skilled people, defined and institutionalized methods and procedures, internal controls and indicators, and structures for agreement service levels and information security, legality, and economy. In this scenario, a minimum organization and control in the use of resources is needed to boost technical and administrative efficiency, with a focus on IT governance. An Information Technology Strategic Plan (ITSP) aims at discovering the resources and IT in an organization, to direct the technological and information architecture to its strategic objectives. The Brazilian Government issued a Normative Instruction (NI04) for public organizations to develop IT Strategic Plans so that they can purchase products and services. In order to help organizations develop, control and manage their ITSPs, a model was created that defines a set of auxiliary steps in the construction of the ITSP.

CHAPTER 17: THE ROLE OF INNOVATIVE AND DIGITAL TECHNOLOGIES IN TRANSFORMING EGYPT INTO A KNOWLEDGE-BASED ECONOMY

Digital technology, artificial intelligence, the Internet of Things and innovative technology applications are gradually transforming businesses and governments in emerging markets making them more competitive and offering opportunities for economic growth and prosperity. This chapter demonstrates Egypt's potential to enable a knowledge society through the deployment of emerging technology tools and applications across different sectors of the society. The chapter analyzes the critical success factors that are necessary for the realization of a digitally-driven society where information is seamlessly exchanged for the optimal utilization of resources for decision making purposes at the government, public and private sector levels. The chapter highlights the need for the formulation of a nation-wide entrepreneurial ecosystem that promotes a tech-startup culture that can effectively contribute to transforming the society by enabling inclusion, universal access to the Internet, more diversified educational opportunities and a comprehensive and conducive environment to development.

CHAPTER 18: UTILIZING THE TECHNOLOGY-ORGANIZATION-ENVIRONMENT FRAMEWORK TO EXAMINE THE ADOPTION DECISION IN A HEALTHCARE CONTEXT

With the mounting pressure to invest in updated technologies and governmental pressure to implement electronic medical records (EMR), the healthcare industry has searched for factors which influence the adoption decision. However, the adoption rate of ERM has been low, due to resistance. In this study, we examine why our traditional models of adoption which focus on the perceptions of the individual towards the innovation (or a micro-level of analysis) have been inadequate to explain ERM adoption issues. Thus, we examine the broader context within which the adoption/non-adoption decision takes place (or a macro-level of analysis), which incorporates the environmental pressures playing a role in the adoption decision. In this study, we adopt the Technology-Organization-Environment framework to examine the context of a physician's decision about whether or not to adopt Electronic Medical Record (or EMR) technology.

CHAPTER 19: USER-DRIVEN INNOVATION IN E-HEALTH CHANGE PROCESSES

This chapter describes a user-driven innovation project in psychiatric services for children and adolescents in rural areas in Norway. The researcher apply a multilayer and dialectic perspective in the analysis of the user-driven innovation process, that designed new ICT solution in compliance with a new decentralized treatment model with required treatment model. The researchers' findings suggest that contradiction appeared at material, cognitive and organizational layers are crucial force for path creation in such eHealth projects. The contradiction in one layer lead to new contradictions in other layers and this facilitate changes. Human actors, especially user groups in innovation processes, play an active role in leading the break from the existing path. Thus, this chapter contributes to the understanding of how user-driven innovation might help in deconstructing existing power structure across different layers in the change processes.

CHAPTER 20: MANAGEMENT AND OPERATIONS OF TRANSFUSION MEDICINE – IMPACT OF POLICY, PLANNING, AND LEADERSHIP ON BRIDGING THE KNOWLEDGE GAP

This chapter focuses on bridging the knowledge gap in management and operations of Transfusion Medicine. Healthcare includes supportive services like blood transfusion. To manage blood supply transfusion services, leadership development is paramount. E-learning has become a common global approach in teaching. However, there are limitations. Some are difficult to influence and eliminate. E-learning packages are promoted to effectively deliver education, but are still not penetrated in clinical transfusion. Most clinicians have little knowledge of risks and benefits of hemotherapy. E-learning found its way into the field of blood transfusion. However, audits of clinical transfusion practice have demonstrated deficiencies in knowledge and practice that impact patient safety and in some cases result in death. WHO initiated a post-academic Master course - Management of Transfusion Medicine, focused on leadership in restricted economy countries?

CHAPTER 21: WHAT WILL ENTAIL ADOPTION OF A MOBILE COACHING SERVICE? THE CASE OF SMOKING CESSATION SERVICES

Mobile devices facilitate easy way to provide enhanced coaching and follow-up services through text or video messages and also, through a two-way interaction via social networks (e.g. Facebook) or virtual reality devices (e.g. Oculus).This delivery mode supports individuals or patients trying to break addictions, such as smoking or drinking. This chapter proposes and validates an explanatory model for the intention to adopt a mobile coaching service and applied it in the context of helping people in their smoking cessation efforts. This chapter uses the concepts of vicarious innovativeness, social influence, perceived monetary value, perceived enjoyment, and perceived irritation as key variables explaining the adoption patterns of this type of mobile coaching service.

CHAPTER 22: NOVELTY ON THE MATRICES OF WEIGHING

This chapter relates some social aspects, such as playfulness, customer service and citizen safety, with one of the simplest multi-criteria techniques to implement, Matrixes Of Weighing (MOW, Matrices De Ponderación [MDP]). The objective of this work is to present applications of the Matrixes Of Weighing, while explain what they are and how they apply, the Multilayer Matrix Of Weighing with Multiplicative factors (ML-MOWwMf). To achieve this general objective and secondary objectives, the presented work is making the use of the Integrated-Adaptable Methodology for the development of Decision Support System (IAMDSS [MIASAD]).

CHAPTER 23: SEGMENTING LOW-CARBON TOURISTS
BY LOW-CARBON TRAVEL SCALE

This study expands research on low-carbon tourism by using the Low-Carbon Travel Scale (LCTS) to profile low-carbon tourists. The results demonstrate the LCTS's ability to effectively identify different levels of low-carbon tourists. Destination managers interested in marketing to low-carbon tourists can use this tool to identify how many low-carbon tourists come to their area, their level of low-carbon tourists tendencies and what the destination can focus on to attract more of this travel segment.

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