Preface

In recent decades the digital technologies are permeated in the daily routine activities of mankind, whether at school, at work and during any personal engagements. Innovative technologies may have brought dominant, transformative tools which are improving on the quality of human lives. Not only the common citizens, but also the policymakers have quickly recognized the significance of certain technologies as a vehicle for socio-economic development of the society at large. Stakeholders in education are promoting innovative pedagogical practices, in business sector are utilizing updated processes and even general public are improving their life styles by utilizing innovative technology. In a knowledge construction setting the technology becomes a tool to assist the user to access information, communicate information and collaborate with others towards human development and knowledge management (Warren, Dondlinger & Barab, 2008; Fullan, 2013; Camilleri & Camilleri, 2017).

Information and communication technologies (ICTs) has already occupied their position on human development and knowledge management and are now evolving towards the era of self-intelligence (Klosterman, 2001). In the 21st century ICTs for urban development, common utilities and planning are imperative to improve the quality of life and identify. This includes the management of traffic, waste, electricity, sewerage and water quality, monitoring fire and crime, conserving renewable resources, and coordinating urban policies and programs for urban planners, architects, civil engineers, government officers, administrators and policy makers. (Lee, et. al., 2008).

Along these contexts, ubiquitous computing is a research field that started in the late 1980s, and is now believed to be at the brink of a steep acceleration in terms of technology development and deployments. Ubiquitous computing is frequently regarded as the third wave of computing, after a first wave of mainframe computing and a second wave of PC computing. It aspires at supporting humans in their daily life activities in a personal, unattended and remote manner. Towards this end, it disperses computing capacity across the environment, and takes out the leaning PC man-machine interface (Gerritsen & Horváth, 2010).

However, it has been observed that until now most of the information systems research has focused on information systems in organizations and their use by digital immigrants. Digital immigrants are those who were not born into the digital world—they learnt to use information systems at some stage in their adult lives. A fundamental assumption of much of this research is that users "resist" technology or at least have some difficulty in accepting it. It may depend on many known and unknown parameters. On the other hand, the digital natives are those who have grown up in a world where the use of information and communications technology is pervasive and ubiquitous. These ubiquitous technologies, networks, and associated systems have proliferated and have woven themselves into the very framework of everyday life. (Vodanovich, Sundaram & Myers, 2010).

For over half a century, numerous global scale environmental, social and economic crises have significantly impacted the human society, as such, life threatening natural disasters, loss of biodiversity, destruction of natural ecosystems, regional disparities, socio-economic inequity, digital, knowledge divide and many other discrepancies (UNEP, 2000). At the same time, rapid population increase and expansion of resource-consumption, combined with industrialization, urbanization, mobilization, agricultural intensification and excessive consumption-driven lifestyles are seen as the principal contributors of these crises (Yigitcanlar & Lee, 2014). To confront those discrepancies the ubiquitous nature of ICT and its endeavors have come into affect to transform the daily lives of the general communities, nations and the globe.

The fundamental fact is that the world is becoming suffused with technologies that have the potential to profoundly change how the human live. Computers now intrude on the daily life as well as disappear into the world around the human societies; they monitor as well as guide them; and they coerce as well as aid the communities. They are increasingly becoming part of the life style and living environments, in public spaces such as airports, garages, and shopping malls as well as in the private spaces of homes and offices. As part of this transformation, minds of users are extending more into the world of technologies. It is commonplace for people to use online calendars to remind them to send a birthday card to a friend and Google information on their mobile during ongoing conversations at dinner parties, a walk into the park, or even in leisure time. People who own a smart phone are noticing how it is taking over more and more brain functions, increasingly replacing and augmenting parts of their memory, such as storing addresses and numbers that once would have required cognitive effort to recall (Clark, 2008; Rogers, 2009). As such, the entire life style of human societies has transformed and craved for successful maneuver transformation towards better life.

The world have already witnessed a rapid evolution of computing, visualization, networking, sensing, communication and informing paradigms, technologies and systems over the last decades (Gerritsen & Horváth, 2010). In these aspects, the technology historians refer to this period as the fourth industrial revolution (Acs, Groot & Nijkamp, 2002) (or in fact as the digital revolution, or even more profoundly as the intelligence revolution. By far the digital revolution (DR) has placed information and knowledge into the position of an industrial economic asset, likewise the first and the second industrial revolutions did it with materials and energies, respectively (Horváth & Vroom, 2015).

Along these perspectives, this novel book has meant to set up the pace and space in the ubiquitous engagements of the digital technologies covering almost all the cornerstones of the human endeavors. Is is expected that the book will take a leading role in the aspects of human development and knowledge management.

ORGANIZATION OF THE BOOK

The book, *Ubiquitous Technologies for Human Development and Knowledge Management*, has incorporated 15 highly categorized investigations and researches across the globe that ranges from education, learning, Community Radio, Information System, e-Governance, Empowerment of Grass Roots Communities, Charity Organization, Family Dynamics, Innovation, Knowledge Management, ICTs, Public Services, Ethics and Consumer Protection.

As the first contribution towards the human development, Chapter 1 discusses about the involvement of community radio as a tool for the development of the rural population. The chapter, as a case study

is aimed at evaluating the contribution of community radios to the development of the North Region of Cameroon. The focus here is on the conflict-stricken region of the North West Region of Cameroon rocked by crises since 2017. The data derived was coded and analyzed to come out with the findings that Community Radios have significantly contributed to the local development of the region though in crisis in the following ways; improving agricultural activities of the local population, advancing peace and culture, and general sensitization of the population, providing a forum for small and medium-sized enterprises to reach out to the population through advertisements at affordable rates and finally sensitizing the public on health issues focusing on HIV/AIDS prevention, COVID 19, vaccination and family planning.

To strengthen the construct Chapter 2 focuses on Human Resource Information System (HRIS) readiness among organizations and schools. It argues that in the digital era, people are shifting from human involvement to digital involvement. HRIS transforms the HR service delivery using web-based technology. Hence, HR departments are able to provide effective services when they utilize HRIS. This chapter spot lights on the digital technology used for human resource management in B-Schools. It is understood that there are plenty of HRIS tools that are available to be used in the educational institutions. For the current study, the researchers focused the study towards the B-Schools in India.

Chapter 3 investigates on the effect of learning expectation and Internet speed on university students on Moodle usage. It has been observed that Higher Education Institutions have combined the Moodle and face-to-face instructions to support and assist students learning. However, the purpose of using Moodle will be appreciated if factors influencing the use of this learning platform are known. Therefore, this chapter investigated the effect of learning expectation and Internet speed on university student's Moodle usage and further examined the mediating role of perceived fun features of the Moodle.

Along the contexts of learning Chapter 4 discusses about another format of learning that is being used in higher education. In recent years, online education has gained a lot of acceptance among the learners in the recent past. At the same time, the advances in technology and changing demand from students and business as well as the possibility for reducing costs and generating income has led to a MOOCs explosion. Over the last years, Massive Open Online Courses (MOOCs) have received a great deal of attention from the academic community, the business and the media, especially after the World Health Organization (WHO) officially declared COVID-19 as a pandemic in March 2020. The pandemic has caused educational disruption across the globe. Educational Institutes faced with the challenge of maintaining the continuity of learning and were almost forced to switch to the online mode. The seemingly simple and immediate solution is to conduct school remotely using online resources. The aim of this chapter is to investigate the current trends and prediction with respect to the adoption of MOOCs in the Indian Higher Education System and identify various influencing factors facilitating this adoption.

To improve the human development at the grass roots communities Chapter 5 discusses about the e-Governance issues at the grass roots level. It mentions that the E-government theories are prevailing in a variety of formats and concepts around the globe, nations and institutions, but there are not many examples to emulate in terms of developing a comprehensive framework of e-Governance system at the outer periphery of the government tiers. This chapter carries out a comprehensive analysis on various theories built around the e-governance perception, and devoted to the penetration of e-government system, particularly at the grass roots. The chapter conducts analytical observations in a few developed, developing and transitional economies. Furthermore, the research specifically focuses on various e-government implementations at the grass roots that penetrated the lowest tier of the governance system for community empowerment and knowledge enhancement.

Chapter 6 emphasizes on information driven learning to empower the grass roots communities. This chapter put forwards the fact that the methodologies involving issues to empower remotely distributed communities localized with sub-standard or lower-standard information backbone are still in demand of imperative attention from the policy initiation level in each country. Especially, nations with constricted global Internet bandwidth, rustic social condition, not properly managed information networks, unnecessary preconditions in formulating action plans and related agenda, and the least not many illustrious perseverance at the national level. Hence, the research mentions that particular attention should be given to grass-root level participants in formulating non-conventional approaches to elucidate on demand driven content by articulating grass roots communities in homogeneous coherence, and at the same time emulating to multifarious conjunctures of socio-economic elements.

Charity organizations have a distinguished role in the development of technological platform across the communities and human development. Chapter 7 discusses about a challenging issue that erupt during natural disasters. This chapter put forwards a case on firefight by nonprofit organizations in Portugal. The traumatic events that occurred in the summer of 2017 in Portugal that caused more than 100 deaths consumed by the fires caused these organizations to have difficulties in coordinating the whole wave of solidarity generated in the community. In this sense, this research has developed a technological platform based exclusively on free technologies that allowed these entities to receive donations and manage this whole process.

Chapter 8 focuses on an emergent daily that reflects the domestic life. The chapter discusses on family dynamics and utilization of ICT to improve the livelihood of communities. The uses of information and communication technologies are increasing in the present scenario to a great extent for various purposes such as education, entertainment, business, e-governance and so on. When ICT use expanded its origin, it has also predominantly takes a huge place in domestic activities. In the recent decade, the domestication of technologies in home has seen expanding and its influence in family activities and family members must be a considerable area to study. Though many scholars from various countries attempted to understand the ICT influence in family life, this chapter adds a contribution to the field by analyzing how the different activities in domestic life influence the family dynamics.

Chapter 9 conducted to have an empirical view about the advent of Electronic Information Resources (EIRs) with respect to their impact on the overall academic and research development. The chapter is the outcome of a survey conducted across seven agricultural universities of North India while using questionnaire as a data collection tool. It is understood that the e-resources have really proved to be a boon for academics fraternity comprising of the students, teachers and the researchers. Though majority of them are now feeling much more comfortable and competent to search the information of their own. However, the electronic availability of the information has enabled them to generate new and diversified research ideas and as such the research output has improved both in quantity and quality.

As a case study Chapter 10 discusses on the context of Fintech gamification in Quebec, Canada. The study mentions that in recent years, firms that rely on Fintech to develop and deliver financial products and services have become increasingly important in the banking and financial sector. Nevertheless, Fintech products raise various ethical and legal issues, particularly relating to consumer rights. These issues can be analyzed in the light of behavioral law and economics which suggest that prevalent cognitive biases systematically affect the judgment of individuals. To mitigate this bounded rationality, the study mentions that it is possible to guide the decision-making processes through the use of nudges and configured sets of choices.

Chapter 11 focuses on various usage of ICT and investigates about the behaviors of the users. It mentions that the level of ICT usage is one of the criteria to measure the rural development. Nevertheless, the increasing presence of the "digital divide" indicates that there are setbacks in accomplishing this progress. A deeper understanding about the categorization of users and non-users of technologies is needed as there is an implicit element called 'potential users' among the non-users category that decides level of ICT usage among people. But the fact is that all are not using the technologies in an equal proportion. The variation is based on different reasons. However, there are people who are interested in ICTs and are unable to explore it.

Chapter 12 converses on empowering general public and services through knowledge management portals. The study mentions that with the advent of the Web technologies, portals are providing a wide range of comprehensive support for information processing and management focusing on content management with specific foundation for knowledge development. Hence, knowledge management portals are emerging as web tools that can assist facilitate knowledge management in the aspect of learning, social awareness, policy implementation and empowering the common citizen of the community. Therefore, knowledge management portals can be a rigid platform for providing integrated access to relevant content and resources in one location, for sharing and distributing information and for bringing the community people together for knowledge interchange.

To investigate on content delivery in higher learning institutions through mobile Chapter 13 illustrates a case on Tanzania. The study mentions that the recent development of ubiquitous technologies such as mobile computing facilities in developing countries promises a cost-effective approach for learning in Higher Learning Institutions (HLIs). For instance, in Tanzania, new technologies in HLIs are being blended through eLearning and M-learning. However, HLIs are facing challenges in the delivery of eLearning contents due to the distributed nature of learning environments, the advancement of a large amount of data, shortage in ICT resources, and bandwidth. This study presents the state-of-the-art challenges and opportunities on eLearning in Tanzania.

Chapter 14 is also a case study from Turkey. It discusses about the role of organization information systems in the digital transformation process of public services. It mentions that in the information age, ICTs are transforming all areas of life. States produce policies, make investments and develop projects in order to use this transformation for the benefit of their citizens. E-transformation of the state requires the transformation of public services and service providers. For this reason, public institutions are important actors in E-transformation, preparing both their structures and services and citizens for information technologies. In Turkey, as in the institutions of the world, the need for information management systems emerged, in order to increase the service quality of public institutions, to carry organizational knowledge from the past to the future, to ensure continuity in a more effective public administration.

Chapter 15 is the final contribution of the book and it investigates on the impact of mobile phone uses in the Congo as a case study. The study emphasizes that around the turn of the year 2020, unprecedented challenges have rocked the world, casting a spotlight on large swathes of the world's populations still unconnected and those connected being gravely plagued by inequalities and racism. The promises of rapid/digital mobile phone dissemination around the world have evaporated. To add to these woes, despite the amount of writings produced on mobile phones, Western bias is surprisingly unbridledly prevailing alongside the fêted wireless connections/apps. Expansive literature tends to present the rapid adoption of mobile phones among rural individuals, with little to no indication of how local values and voices are respected or promoted.

CONCLUSION

It has been observed that the scientific resources and knowledge development contents are always poorly developed, nourished and disseminated in many countries and societies, especially striving at the marginal ends. In this aspect, small states are particularly disadvantaged by the absence of employment opportunities for local scientists and researchers, and remained heavily dependent on outside assistance. Moreover, even at the start of 2021, many countries are in lack of appropriate digital signatures that can be seen globally. Hence, serious attention must be paid for their capacity building in scientific education; building relations between science and communities; and targeting limited scientific resources through effective policy and governance. Potential efforts should be provided to improve the capacity of the grass roots communities and under privileged citizens. This book can serve as a basic knowledge provider for the researchers and academics, including policy initiators at all levels for the benefit of common people and community.

Throughout the book contemporary technology issues have been depicted with case studies and lessons learned from different researches that complement and applied for economic, technical and social benefit of the society and people at large. It is expected that the content of this book will become an added asset to the conventional knowledge systems, especially in the developing economies.

Consequently, this may encourage all stakeholders of similar nature to undertake participatory reviews of their social perspectives of development in the aspect of incorporation of ubiquitous technologies to ensure that the contexts, learning techniques, researches and achievements of basic development goals for human development and knowledge management. The outcome of these researches should focus on making transformations in both learning and future researches to strengthen development techniques towards strengthening of knowledge development aspects at the marginal context. It is anticipated that this could be a long-term but ultimately effective approach to empower marginal communities at the grass roots upholding human development aspects.

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