Chapter 7
Work Engagement in the Era of Industry 4.0:
Mapping Perspectives and Knowledge in E-Strategy Implementation

Cheryl Marie Cordeiro
University of Gothenburg, Sweden

ABSTRACT

Understanding the human factor becomes increasingly important in technological innovation processes. To that end, different types of knowledges are needed in order to build a more engaging work environment for future productivity. This chapter brings theoretical and empirical insight into the processes of developing software tools for computer-supported cooperative work (CSCW), enhanced for cross-departmental functionality in a European founded multinational enterprise (MNE). Working with the assumption that knowledges are obtained via different perspectives, the deictic function of Pronouns is applied in the Götheborg IV (G4) model. The model shows how relative perspectives can be defined and applied in a systematic manner towards an understanding of greater work engagement for future human capital productivity. Three departments with global operations in a European enterprise is studied in how they manage human capital productivity in relation to technological advancements.

DOI: 10.4018/978-1-5225-2319-2.ch007

INTRODUCTION: TECHNOLOGY, FUTURE PRODUCTIVITY, AND THE HUMAN FACTOR

Even if the impact of technological innovations differs in intensity across countries, what remains in consensus is that productivity growth is coupled with technological innovation that in turn act as catalyst to social development and the raising of standards to quality of life (OECD, 2015). A study on future productivity by the Organisation for Economic Co-operation and Development (OECD) in 2015 suggests that from now until about 2060, potential global growth is projected to slow in most countries. This could be due to a number of influencing factors that include aging populations that reflect a slower growth in labour force and thereby educated and skilled human capital.

Global growth will become dependent on multi-factor productivity (MFP), which hinges on the fluid interplay and balance of (i) continued investments in knowledge based capital (KBC) that includes reforming current restrictive regulations in certain countries, and (ii) the continued dissemination of new discoveries made at the technological frontier. These global trends imply a rising demand for human capital skills which can be seen to be of a direct consequence of how much humans continue to be engaged in their work environments in the future, seeing that technology (as indicative of the automation front and the robotics industry) is increasingly ubiquitous.

As technology becomes increasingly indispensible not just as a tool for work purposes but rather as a way of life for many, human factors and human-centric perspectives have come into focus in both the scientific knowledge paradigm and practitioner realms. It is perhaps ironic that in the age of cyber physical systems where human work is made easier and more interesting for the creative human mind, that it is humans who find themselves in need of an upgrade to keep up with technology innovations.

Relatively high rates of skill mismatch imply rigidities in labour market matching and constrains the growth of innovative firms and influences wage inequality. Tackling skill mismatch is particularly important in light of the projected slowdown in human capital accumulation and evidence that mismatch has increased over time (EC, 2013a). Moreover, addressing policies to reduce skill mismatch can help improve equality by incentivising firms to pay for better-matched skills. (OECD, 2015, p. 9)

In order to leverage on greater efficiency in applying new technologies at the work place, new fields of study have developed in the past decades that distinctly put a human-centric perspective in focus in the continuing evolution of technological processes. The developing interest in human factors or the human-centric perspective in the information age bolstered by developing digital infrastructure is one way of