

Preface

Modern management has to deal with unprecedented changes affecting today organizational structure and technologies used by companies. The modern enterprise is already a cyberfactory (Czarniawska, 2012). One can say we are facing the cyborgization of companies, “The Second Machine Age” (Brynjolfsson & McAfee 2014), with robotics, automation taking over tasks previously performed by humans; the phenomenon requires entirely new skills and competences as well as building new relationships in the workplace not only between people, but also between man and the thinking machine equipped with artificial intelligence.

The publication focuses on contemporary organizations - already called organizations of the future due to the fact that they undertake innovative projects on a previously unknown and unprecedented scale. In this context, it aims to identify these new skills and competences and proposes how to best manage them. In addition, the publication will provide best practices for managing the new competences. We are now in the “second machine age” which will again fundamentally change the workplace. Machines are still unable to perform as well as humans at jobs which require non-routine functions or creativity, since they are designed to copy human thoughts and processes rather than create them independently. However, over the last few years we have observed a growing number of manual workers being replaced by increasingly advanced robots. In the new era of robotics and artificial intelligence there is a need to discuss new competences of humans.

Recent literature has documented the positive relationship between new workplace design, innovative human resource management, and organizational performance. There is a strong correlation between the level of competence and some specific work practices. Organizations of the future need to be complemented internally by bundles of new competences in order to be more successful.

The book discusses three components of competencies:

1. **The Knowledge:** Knowledge of the foundations of robots, information resources, information and knowledge management, information technology, information resource management, organizational management, research and user studies.

2. **The Skills:** Critical thinking, problem-solving skills, communication skills, collaboration skills, creativity and innovation skills, communication, team working, analytical thinking, decision making, management and planning, teaching and training, conceptual thinking.
3. **The Personal Attributes:** Including the leadership, service mentality, morals and professional ethics, achievement motivation, accountability, self-management, flexibility, and adaptability.

Those competencies are closely related to sustained competitive advantage of the future organizations in the era of robotics and artificial intelligence.

OBJECTIVE OF THE BOOK

Companies of the future learn more rapidly and increase flexibility in a world of growing complexity and change. The book shows how these companies manage their new competencies; it also reviews the broad background of the new competencies and examines assumptions, strategies and models, and other aspects of new competencies. It explains how the necessary new competences can be developed: first, by discussing and illustrating the kinds of managerial and organizational competencies that are needed to navigate and be effective in the future; and second, by illustrating how organizations can develop competence plans. This book ventures beyond the mere identification of new competencies and specifically discusses strategies a diverse group of prominent companies have used to bridge competency gaps. It presents some insights, projections, perspectives, and observations regarding the competencies required in the future. Moreover, it offers a set of testable ideas and practices suggesting how to manage new competencies.

TARGET AUDIENCE

We address this book to professionals, executives and administrators, as well as specialists in the fields of personnel training and human resources management. We believe that high-tech companies' founders and managers will benefit from our research findings, and that faculties, students, and researchers will find here some new food for thought.

Roman Batko in his chapter conducts a critical analysis of methods and techniques of organizational control applied today, in the era of liquid modernity. Since that control, more often than not, is executed nowadays by electronic surveillance equipment and computer programs, hence his term of choice – “cybercontrol”. This

kind of control exerts an overwhelming influence on work environment and as such demands new strategic competencies on the part of management. According to Anna Szopa, wisdom of the crowd has been applied successfully to a range of tasks, from translating text and annotating images, to collecting information and building complex software. While traditionally these tasks have been small and could be completed by non-professionals, organizations are now starting to crowdsource larger, more complex tasks to experts in their respective to build large databases and to solve problems that are difficult for machines to solve. In her chapter she presents hybrid solutions which can be viewed as optimization- leveraging machine intelligence to help improve the accuracy and efficiency of algorithms. Robert Niewiadomski and Dennis Anderson explore the impact of the rapid expansion of artificial intelligence (AI) in relations to the labor market. The authors argue that this rather optimistic, even naïve scenario, collapses while confronted with the exponential growth of AI; in particular, with the potential arrival of syneoids – robotic forms of “strong AI” possessing, or even exceeding, the full range of human cognitive abilities.

Kijpokin Kasemsap and Suan Sunandha argue that critical thinking (CT) is an important goal of modern education, therefore, it is required for the learning organizations to promote their CT and develop a learning plan to regularly check their practical advancements toward satisfying educator requirements. In their chapter they propose that promoting CT has the potential to enhance organizational performance and reach strategic goals in modern learning environments.

The Role of Living Labs in the Process of Creating Innovation is the subject of the chapter by Anna Maria Sabat and Anna Katarzyna Florek-Paszkowska. Based on the research carried out into Living Labs in Canada, it presents the essence of Living Labs as a concept facilitating generating innovation in businesses thanks to the cooperation of various actors, e.g. producers with users, inspiring the process of the development of new goods and services. The research questions raised pertain to the clarification how Living Labs create innovation in businesses.

Oya Zincir and Ayşegül Özbebek Tunç write that hypercompetitive, changing, and unpredictable environment requires different tools, solutions, dynamics and drivers according to the actual time. The Authors propose the rethinking of the McKinsey’s 7S Model in the context of An Imagination of Organizations in the Future.

Mario Gonzalez-Fuentes’ chapter on The Organization of the Future and the Marketing Function provides a comprehensive review of technological changes experienced by the marketing function in a company, as documented by both scholars and practitioners. It also features a thorough discussion of the ongoing academic debate regarding the new set of technical skills that have defined employability in the marketing circles for the past couple of decades and the challenges ahead for future professionals and executives.

The objective of Jan Kreft's chapter is to present the core myth of new media organizations - the myth of the Demiurge - associated with the operation of algorithms and critical analysis of myths created around it, which accompany the social, political and business role of algorithms. The myth of the Demiurge allows us to approach an organization from a broader perspective, it becomes a basis for defining particular behavior of a media organization. Such a complex myth favors the formation and supports other myths which accompany the functioning of algorithms: the myth of democratization, visibility, and accessibility.

Nina Rizun and Tatyana Shmelova argue that the appearance of the term Socio-Technical Systems (STS) is the result of a rapidly developing interaction between the social and technical factors that create a new, sometimes unpredictable, synergistic effect on the performance of the contemporary company. In their chapter they present the taxonomy of the most typical automatic control theory elements and their compliance with certain decision-making models. The authors also accept the suggestion that the instruments of collective multi-criteria decision-making and social-network analysis theory have similar mathematical and methodological bases.

Jan Kreft and Mariana Petrova write about new media space and users who are confronted with excessive contents, a phenomenon which is metaphorically referred to as information or content overload. Its manifestations are commonly known. The aggregation of media content appears to be a popular form of media market activity which is supposed to facilitate access to information in the conditions of its excessive amount. It can be defined as selection and hierarchization of information and determination of its value. The aggregation can be performed with the direct participation of editorial teams, or it can be performed automatically, with the use of algorithms.

Zofia Bednarowska and Michał Andrzej Chrzanowski regard Competences as a Core Factor Impacting Market Research Usage in Poland. The market research industry is widely recognized as an essential element in the management and development of enterprises. This article identifies a battery of concepts proving that the use of market research supports the decision-making process within enterprises, and, as a result – company development as a whole. Not only does it provide knowledge about the competitive environment and reduces uncertainty during decision-making processes, but also contributes to the knowledge of the management and the growth of the company.

In sum, we present to you the book on your future workplace. What kind of competencies will we need as workers to survive and succeed when surrounded by very smart robots? What kind of new management skills will managements need

to develop and acquire in order to tame the new human-cyborg environment? And, are we still living in what we have so far considered to be Reality, or is it already the Matrix? Here you just might find suggestions, and perhaps even solutions and answers.

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