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Decision Analytics – Key to Digitalisation

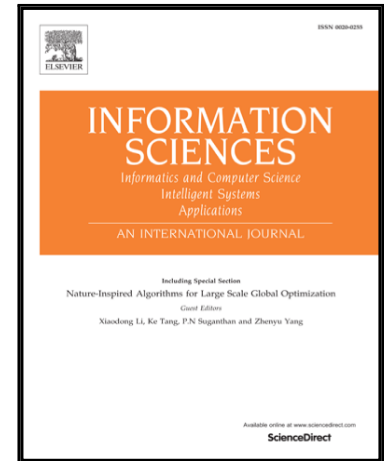
Christer Carlsson

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Decision Analytics – Key to Digitalisation

Prof Dr Christer Carlsson

Institute for Advanced Management Systems Research

Turku, Finland

christer.carlsson@abo.fi

Abstract

The context we address is digitalisation and we want to make the case for decision analytics as one of the key drivers to both meet the challenges from big data/fast data and to work out the new possibilities we are getting to mobilise knowledge, i.e. to make tacit knowledge explicit and to make it accessible and usable for automated, intelligent systems. The use of powerful, intelligent systems is one of the relevant solutions in the digitalisation that is now spreading in industry and business. Digitalisation brings increasing competition, slimmer margins for productivity and profitability and more pronounced requirements for effective planning, problem solving and decision making. This requires a transfer of knowledge from experts and experienced people to novice system operators – and to automated, intelligent systems – a transfer we call knowledge mobilisation. We will work out reasons for why digital coaching will be a key part of knowledge mobilisation and a key step in the development of instruments we need for the progress of digitalisation.

Keywords: decision analytics, mathematical programming, fuzzy ontology, digital coaching

1. Introduction

In a recent report called “*Competing in 2020: Winners and Losers in the Digital Economy*” [13] Harvard Business Review with sponsorship from Microsoft worked out the impact digitalization will have in a few key industrial sectors. The method was a survey aimed at senior managers, executives and board members; 783 respondents completed the survey including 578 members of the Harvard Business Review Advisory Council; all of them indicated that they are digital decision makers or influencers. The key industries covered were manufacturing or resources, financial services and technology [about 44% of the respondents]; organizations with more than 10 000 employees [53% of the respondents], 1000-9999 employees [26% of the respondents] and 100-999 employees [21% of the respondents]. The respondents came from North America [35%], Europe/MEA [35%], Asia/pacific [23%] and South/Central America [7%]. It is fair to say that the material collected is sufficiently good and representative for the purposes we have in this paper.

Among the respondents 16% stated that their companies are digital (most products/operations depend on digital technology), 23 % that they are non-digital (few if any products/operations depend on digital technology) and 61% that they are hybrid (some products/operations depend on digital technology).

The changes taking place are referred to as “the digital disruption” and “the digital revolution” and the contention is that digitalization will have significant impact on both the structure and the operations of the business world, on the business models and on how companies cope with increasing competition, slimmer margins for productivity and profitability and more pronounced requirements for effective planning, problem solving and decision making. Digitalisation is of course bringing opportunities: the two most significant are enhanced customer relationships that allows to work out (and charge for) individual value adding in ways that have not been possible before and value chain integration that offers control of markets and

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