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Chapter XI

The Current Bottleneck of Knowledge Management and How Information Technology can be Successfully Used to Reduce It

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Abstract

Knowledge is generated and propogated by cultural selection, a process that—like it genetic counterpart, natural selection—consumes much time and resources in contrasting every new (or mutated) information with reality. However, if we hasten to minimize the field tests or marketing tests—forms of cultural selection—we run into the risk of not testing the knowledge sufficiently and make a deficient contrast

with reality. In this chapter we present the concept of pragmatic minimization as the compromise of minimizing the amount of resources invested in contrasting the newly acquired knowledge with reality, while not falling into a lack of realism—blind idealism—or a cominatorial explosion of mental possibilities. Then, we advocate "simulated praxis" and a "more pragmatic artificial intelligence" as new avenues to optimally solve the problem of pragmatic minimization.

Introduction

Prior research[1] spanning several centuries allowed us to identify the knowledge management (KM) bottleneck as the increased demand for knowledge over the current limits in pragmatic minimization.

The chapter develops the concept of pragmatic minimization using three observations:

1. Just as the genetic code evolves by natural selection of random mutations of macromolecular information, knowledge is generated and propagated by cultural selection of essentially random changes in neurological information (innovations, inventions). This process occurs in three phases: (a) a syntactic phase in which the information is altered and exclusively kept in the syntactic or formal dimension of information; (b) a pragmatic phase in which the new (or altered) information is contrasted with reality (field test, marketing test) and is culturally accepted or discarded (forgotten or placed in an archive for future potential retesting); and (c) a semantic phase in which the new information is incorporated and diffused into the relational information network that we call culture, in particular,that which we call knowledge.
2. The phase of knowledge generation and transfer that consumes more time and resources is its pragmatic phase; the phase in which we bring it to praxis. In other words, the phase in which we contrast the newly generated information with reality. This is the phase that constitutes today's knowledge management bottleneck and therefore the one that needs to be minimized if we want to satisfy the ever increasing demand for knowledge. We call this need pragmatic minimization.
3. In our rush to minimize the pragmatic phase we run into the risk of not testing the knowledge fully and making a deficient contrast with reality that weakens its pragmatic anchors by (a) falling into voluntarism or idealistic belief that the facts will conform or must conform to our idea, or (b) letting our imagination fly into a prolific explosion of syntactic-semantic combinations, where each