Designing Analytical Approaches for Interactive Competitive Intelligence

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ABSTRACT

Since Porter’s work on competitive strategies in the 1980s, the concept of competitive intelligence has become part of the management mainstream. Currently, two big shifts are challenging the state of the art. On the one hand there is the rise of the ubiquitous servicification in all industries which makes the existing methods for product-oriented industries outdated. On the other hand there is the rise of big data (volume, velocity, variety). Both shifts are driving the development towards interactive competitive intelligence systems. The authors introduced a framework for interactive competitive intelligence systems which overcome the sequential water-fall processes which are current CI practice. In the introduced framework they combine the concept of Key Intelligence Topics (KIT) with the concept of (boundary) objects from interaction theory. The authors demonstrated with examples within their “IP Industry Base” how interactive CI for service-oriented sectors can be implemented. The resulting vector-based representations of the companies’ service profiles allow the user to visualize, compare, retrieve and analyse companies in a constructive and scalable way.

Keywords: Boundary Objects, IP Industry, Interactive Competitive Intelligence, Key Intelligence Topics, Key Intelligence Topics (KIT) Models, Reverse Service Engineering, Service Profiling, Technology Transfer

1. INTRODUCTION

1.1. Motivation

Competitive intelligence (CI) is turning external, unorganized data about the competitive environment into strategic, useful insights. It is the basis for strategic decisions of a company. While CI is already an established topic in research and industry, within the last years two major shifts have emerged and are challenging the state of the art. First of all there is the rise of smart services and service-orientation in all industries which challenges the CI methods for product-oriented industries. Secondly there is the rise of big data (Manyika et al., 2011; McKinsey, 2012) which opens the way to new dimensions of...
scalability and speed but also failures. Both shifts are driving the development towards interactive competitive intelligence (iCI) for service industries.

In this paper we demonstrate by examples within our case “IP Industry Base” how interactive CI for service-oriented sectors can be implemented. In the underlying conceptual framework we combine Herrings’ concept of Key Intelligence Topics (KIT) (Herring, 1999) with the concept of objects known from the interaction theory.

This allows the user to visualize, compare, retrieve and analyse companies based on their service profiles in a constructive and scalable way. These artefacts are used as boundary objects for all stakeholders in continuous, collaborative analyses of the competitive environment.

1.2. Research Approach

The aim of the research presented in this paper is designing a conceptual framework for interactive competitive intelligence systems, as well analytical approaches to be implemented in these systems. To achieve this goal we followed the principles of Design Science Research (DSR) (Pfeffers et al., 2007). The Design Science Research Methodology aims to generate problem-solving artefacts as a result of a well-defined research process. In order to validate the introduced framework for interactive competitive intelligence we demonstrate the implementation of concrete analysis in our case “IP Industry Base”.

The remainder of this article provides the following contributions. In chapter 2 the conceptual framework for interactive competitive intelligence systems is introduced, based on an analysis of the shortcoming of current CI practices and systems. Chapter 3 introduces the analytical approach “service profiling” in order to demonstrate the application of the framework. With this example we show, how new methods and approaches for competitive intelligence can be designed and implemented in a structured way, governed by the conceptual framework introduced in the first step. The last chapter provides a short outlook.

2. TOWARDS A CONCEPTUAL FRAMEWORK FOR INTERACTIVE COMPETITIVE INTELLIGENCE

In this chapter the general concept of interactive competitive intelligence is introduced. Derived from two enormous trends present in current industry – servicification and the rise of big data – we highlight the major shortcomings of conventional competitive intelligences practices. To enable the design and implementation of practical solutions in this context we introduce a conceptual framework for interactive competitive intelligence. This framework should be used as fundament for the design of systems for interactive competitive intelligence, as well concrete analytical approaches. This conceptual framework combines the concept of Key Intelligence Topics with objects known from the interaction theory. To proof the practical relevance of the proposed framework, we demonstrate in chapter 3 its usability during in the design and implementation of service profiles as analytical approach.

2.1. Competitive Intelligence in Service Industries

Competitive Intelligence is “the use of external sources of information (news announcements, analysts’ reports, patents, company web pages, feedback from clients and suppliers, personality profiling of key individuals) to assess the environment in which a particular organization operates and to predict future political, economic and competitor actions which might affect the organization” (Tsitoura et al., 2012). Summarized, competitive intelligence is the structured analysis of the company’s competitive field by using external, legal sources. Competitive intelligence is not only collecting and analysing data, but
A Concept of a Service Field and its Applications to Create Service Value
Michitaka Kosaka, Jing Wang, Weiwei Han and Qi Zhang (2014). *Progressive Trends in Knowledge and System-Based Science for Service Innovation* (pp. 22-43).
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