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## The Urbanized Bid Process Information System

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### Abstract

Bid process translates the techno-economic expertise, which partners build in a cooperative way. It is a key business process which influences the company's survival and strategic orientations. Therefore, the Bid Process Information System (BPIS) that supports this process must be characterized by integrity, flexibility and interoperability. Nevertheless, the urbanization approach, on which we rely to implement this BPIS, has to deal with "three fit" problems. To overcome these deficiencies, we propose our methodology to organize the BPIS following four dimensions: operational, organizational, decision-making, and cooperative dimensions. In this paper we are particularly interested at reduce the gap between business and technical infrastructures of the BPIS. Thus, we propose solutions to deal with "vertical fit" problems and to define the characteristics of the operational dimension. In this context, we illustrate that the ERP (Enterprise Resource Planning) implements the operational dimension of the BPIS. However, there is no specific module to the exploitation of the bid process. Thus, we propose to extend "OpenERP 7.0" by a new module that treats the techno-economic bid solutions. We also describe the characteristics of the organizational dimension of the BPIS.

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### 1. Main text

The owner emits a bid to acquire a product or a service; he receives after some period many proposals from different contributors which submit their responses to this call for tenders (bid process). A bid process embodies a techno-economic proposal that translates the recommendations proposed by each contributor, to reconstruct the product. It is an elementary study that takes place before negotiating the contract with the owner, i.e. before launching the project.

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The bidder (company that pilot the bid process) might appeal some partners, especially during the construction of the technical proposal solution. The bid process is a company business key as it does affect its future. Indeed, this process corresponds to the conceptual phase of the lifecycle of a project or a product. A bid process interacts upstream and involves other processes being design process. It aims to examine feasibility of the bid before negotiating any contract with any owner following a pre-study carried out before a project launch.

It is the company's agility and competence that allows acquiring the owner's confidence, and wins the offer. The Information System (IS) is the executing support of the business processes. It directly influences the internal and external environmental requirements of the company. That's why IS must be: integrated, flexible and interoperable. Nevertheless, the reality shows agility and consistency problems on both inter and intra levels. We prove this premise when we apply the urbanization approach [5]. It consists of three transposition problems dubbed as "*three fit*": (i) "*vertical fit*" (lack of integrity and lack of extensibility); (ii) "*horizontal fit*" (lack of flexibility and lack of internal interoperability); (iii) "*transversal fit*" (lack of openness and lack of external interoperability). To overcome these deficiencies, we have proposed in [21] our methodology to organize the IS following four dimensions: the operational dimension (tackles flexibility), the organizational and decision-making dimension (tackles integrity) and the cooperative dimension (tackles interoperability).

Afterwards we are particularly interested at reduce the gap between business and technical-infrastructures of the BPIS (Bid Process Information System) [9]. Thus, we propose solutions to deal with "*vertical fit*" problems and to define the characteristics of the operational dimension. Our objectives consist, not only in implementing the right tools to achieve bid in one homogeneous system (integrated), but also, in solving the problems related to interactions intra, and even inter applicative (interoperability). Our perspective consists to exploit the BPIS in different bids (flexibility).

This article is organized as follows. The second section represents our related work. The third section describes our methodology to deal with "*three fit*" problems. The fourth section shows our modelling of the business infrastructure of the BPIS. The fifth section shows the features of the bid-memory, which represents the organizational dimension of the BPIS. The sixth section presents our implementation of the operational dimension of the BPIS. We end this work by the conclusion and with the prospects of our future works.

## 2. Related work

We rely on the urbanization approach to establish our Bid Process Information System (BPIS) [9]. This approach is described according to four levels: (i) business view (it represents the modelling of the business processes used by the company); (ii) functional view (it represents the functions and flow information towards business processes regardless of the technologies used); (iii) application view (it represents the applications used to support functions and flows, and also to equip the process); and (iv) physical view (it represents the physical infrastructure).

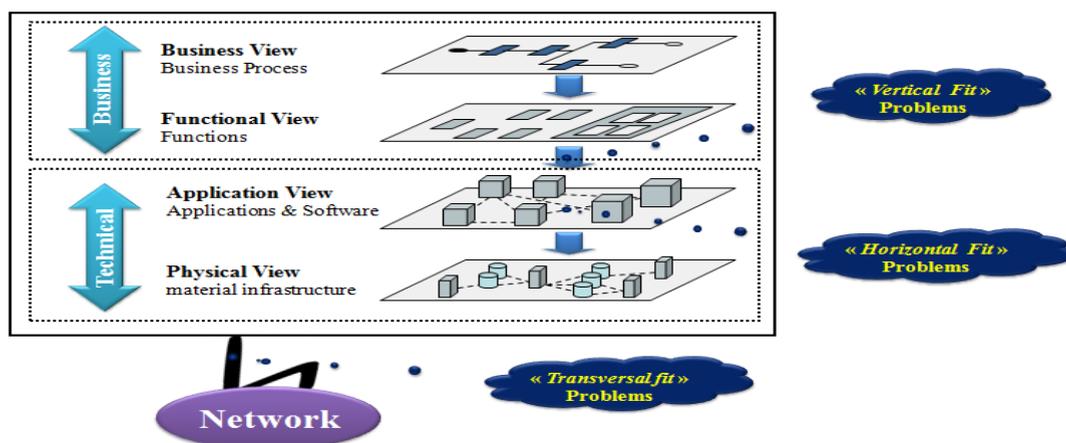


Fig. 1. Urban IS reference model [5]: "three fit" problems [21].

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