



# GoBIS: An integrated framework to analyse the goal and business process perspectives in information systems

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## ABSTRACT

**Context:** Organisational reengineering, continuous process improvement, alignment among complementary analysis perspectives, and information traceability are some current motivations to promote investment and scientific effort for integrating goal and business process perspectives. Providing support to integrate information systems analysis becomes a challenge in this complex setting.

**Objective:** The GoBIS framework integrates two goal and business process modelling approaches: *i\** (a goal-oriented modelling method) and Communication Analysis (a communication-oriented business process modelling method).

**Method:** In this paper, we describe the methodological integration of both methods with the aim of fulfilling several criteria: i) to rely on appropriate theories; ii) to provide abstract and concrete syntaxes; iii) to provide scenarios of application; iv) to develop tool support; v) to provide demonstrable benefits to potential adopters.

**Results:** We provide guidelines for using the two modelling methods in a top-down analysis scenario. The guidelines are validated by means of a comparative experiment and a focus-group session with students.

**Conclusions:** From a practitioner viewpoint (modeller and/or analyst), the guidelines facilitate the traceability between goal and business process models, the experimental results highlight the benefits of GoBIS in performance and usability perceptions, and demonstrate an improvement on the completeness of the latter having an impact on efficiency. From a researcher perspective, the validation has produced useful feedback for future research.

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## 1. Introduction

Organisations are aware of the importance of evolving to keep pace with changes in the market, technology, environment, law, etc. [1]. As a result, continuous improvement and reengineering have become common practices in information

system (IS) engineering. Understanding organisations and their needs for change often requires several interrelated perspectives [2,3]. The IS engineering community has contributed a number of modelling languages that are typically oriented towards a specific perspective, requiring approaches to their integration [4].

In this paper, we focus on extending a business process perspective with intentional aspects of organisations. Business process modelling languages provide primitives to specify work practice (i.e., activities, temporal constraints, and resources). Despite the fact that processes are widely

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