Abstract

Business processes are significantly impacted by data. Data values or data structures should be taken into consideration when the process is being examined. For process redesign and the managing of change in data values, it's important to analyze the effect of data elements on other business process elements, such as: activities, routing constraints etc. In this paper, I wanted to demonstrate the overall impact of data elements on main business processes related to French telecom company named "Transatel". For that, I used already defined set of primitives for Data Impact Analysis.

Keywords: Business processes, Process design, Data Impact Analysis

Introduction

Business success of organizations is strongly influenced by their business processes [1]. Business Processes elements such as activities and decisions are significantly impacted by data that stored in different information systems and it's being changed during the execution of the process.

We need to address the change of data items along the business process and not only in a local perspective since data-items are fulfilling a crucial role for Business processes.

Data items often not stable and changing their values and even their structure during execution time.

Data Impact Analysis is focusing on the influence of each data element on other data elements in a certain process or other related processes. The term of data impact analysis is a concept derived from a wider term business impact analysis, which deals with the concept of change within business processes and its effect [3].

For Data Impact analysis we distinguish between the effect of change at design level and the one made at execution level.

At the re-design level due to change of requirement or business demands, modifications can be done for DB schema, changes in elements, attributes, relations and even the control flow. Therefore, we need to understand how the change made locally is affecting the rest of the business process and mainly how it is affecting the data elements.

At the execution level, data impact analysis is used to understand the unexpected change in the values of current instances attributes, errors and expectation that may occur.

Data impact analysis is used to understand the effect of changes within the process, enable risk management and analysis.

We see many times that incorrect data item value can affect the entire actions to follow and other data items. The Goal of the process in this case won't be achieved, and corrections actions will be needed and even a full Process Rollback. Therefore, its crucial to address all the impacts of data item on other elements that depend on it.

Change management focused on control flow changes has been addressed in [4][5][6][7]. The process adaptation and flexibility approaches in [8][9]. In spite we have a focus on the dependency among data and other process elements in [10][11][12], we are still missing detailed examination of data elements and data values.

In this Final Project I wanted to address and demonstrate the importance of data elements on business processes. The Processes and the data items that will be detailed, are related to a French telecom company names "Transatel". I've used the set of primitives defined in [19], as a basis to demonstrate the impact on Port-In business process and other business process, i.e., Activation, within the Telecom Domain.

The reminder of this paper is organized as follows: Section 2 presents the relevant Literature review.

Section 3 gives overview of the Organization, i.e., "Transatel". Section 4 gives explanation about the Belgium Portability process, its stages and execution while focusing on the data items. Based on the primitives for data impact analysis defined in [19], we emphasis those primitives for the Portability process in Section 5. The queries in Section 6 derived from previous section primitives following by general conclusions. To demonstrate Data Items effect in execution phase, I demonstrated Instances collides in Section 8, involving Activation Process as well. The latest is broadly explained in later section.