

FRAMEWORK DEVELOPMENT

GOAL-Framework: Organizational goals ontology

The framework is proposed as a problem solution to evaluate the level of the organizational goals achievement. We develop this framework as an extension approach from the previous studies on the organizational modelling to introduce the model for the organizational goals based on ontology [1]. We name this framework as GOAL-Framework. In GOAL-Framework, we present the organizational goals ontology to develop the dependency relationship between the organizational goals elements and dependency relationship between organizational data and organizational goals [1]. In this framework, it is important to develop the dependency relationship in order to identify the main goals for the organizational. At the same time to identify which organizational data is relevant for the achievement of the organizational goals. In order to identify the relevance of organizational data from organizational datasets, metrics is defined as a measurement tool to analyse organizational data to evaluate the level of the organizational goals achievement.

Definition for the GOAL-Framework.

GOAL-Framework			
	Mnemonic	Description	Questions
G	Goals [2-4].	Using the framework we define the goals in the organization.	How we formally define the goals within the organization? How the organizational goals can be evaluated?
O	Ontology [2-4], Organization [2-7], Organizational data [1, 8].	We use ontology to identify the relationship between the organizational goals, and between organizational data and organizational goals.	What sub-goals relate to the organizational goal? Which data relate to the organizational goals that can be evaluated?
A	Analysis [4, 9-11], Achievement [1, 8].	We analyse organizational data for the goals achievement.	How metrics can be used to evaluate the data that relate to the organizational goals? How metrics can be defined with respect to the organizational goals?
L	Level of the organizational goals achievement [1, 8].	Final results from data analysis will assist decision-making to evaluate the level of the organizational goals achievement.	Are the final results relevant for decision-making to evaluate the level of the organizational goals achievement?

GOAL-Framework is defined to represent the organizational goals ontology [1, 8]. The framework discovers a systematic pattern to define the organizational goals, use ontology to develop the relationship between organizational data and organizational goals, analyse the organizational data that relate to the organizational goals and come out with decision-making to evaluate the level of the organizational goals achievement.

Background of the organizational goals ontology

In GOAL-Framework, ontology is applied as a tool to develop the dependency relationship between the organizational goals elements which include sub-goals and organizational data [1, 8]. It provides the means to understand this dependency relationship as shown in Figure 4.6. Therefore, domain experts and entrepreneurs can define the organizational goals based on their requirement.

We discussed the background of the organizational goals ontology in order to identify the dependency relationship between the organizational goals [1]. The background shows how we clarify the organizational goals ontology in order to assist the process to develop the relationship for the organizational goals, the possible sub-goals and its variables.

In order to develop the organizational goals ontology, several structures that were proposed in the previous models are combined [2, 4, 12]. We adopted these models as a reference for our organizational goals ontology. However, the scope of the proposed organizational goals ontology in this thesis do not cover all the organizational processes in Sharma & Osei-Bryson [2], Fox et al. [12] and Rao et al. [4].

Fox et al. [12] focused on structuring the linkage between organizational structure and behavior. This is critical for enterprise model development. However, the authors do not emphasize any organizational resources such as data and information but focus on the roles and activities within the organization.

Meanwhile, Sharma & Osei-Bryson [2] developed a framework for an organizational ontology in an effort to increase an understanding of the business. However, the authors do

not specifically identify the relationship between organizational resources, such as data, and the organizational goals. In this model, the authors adapted the work of Fox et al. [12], where the authors discussed the physical resources and role of the organizational model.

Recently, Rao et al. [4] developed an organizational ontology in order to build a knowledge map within the organization. The structure includes the flow of knowledge within the organization in the context of knowledge sharing and knowledge storage. In this model, the authors discussed the organizational resources, as in Sharma & Osei-Bryson [2]. Another aspect that is similar to Sharma & Osei-Bryson’s work is that both models include business processes. However, Rao et al. [4] discussed business processes from the organizational goals point of view and Sharma & Osei-Bryson [2] discussed business processes from the organizational activity point of view. Most of these studies focused on the organizational structure and performance.

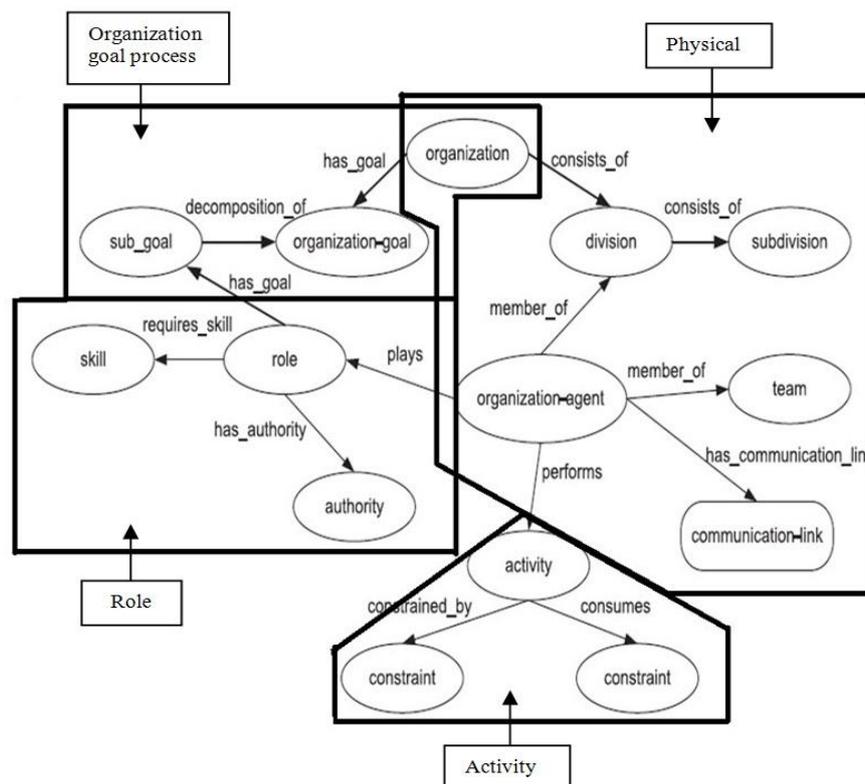


Figure 1: Organizational ontology (Fox et al. [12]).

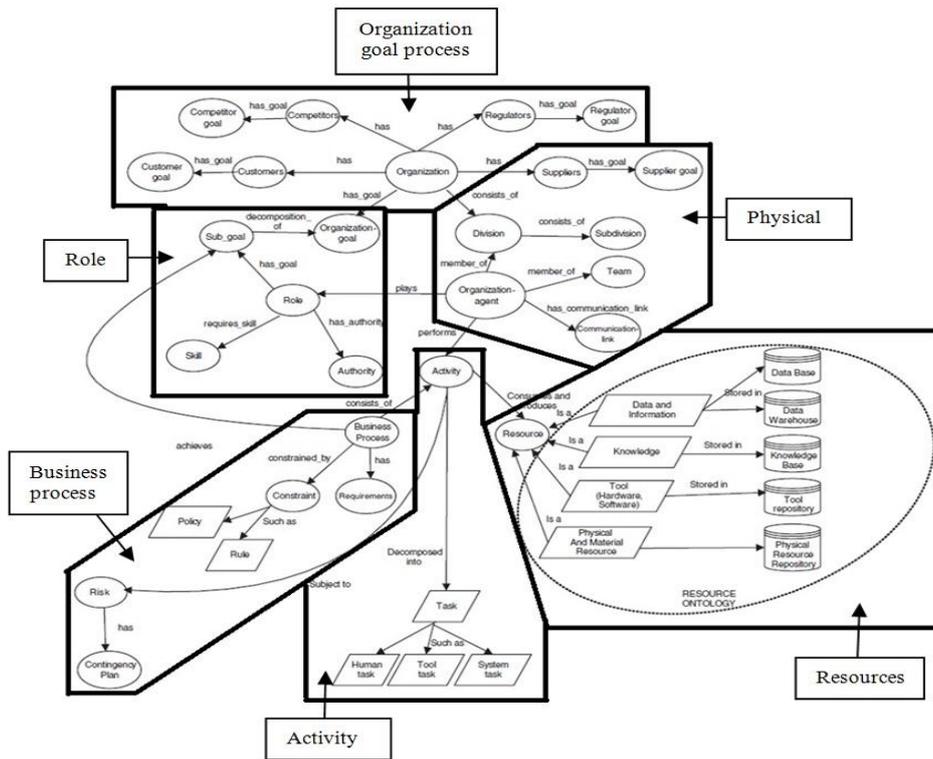


Figure 2: Organizational ontology (Sharma & Osei-Bryson [2]).

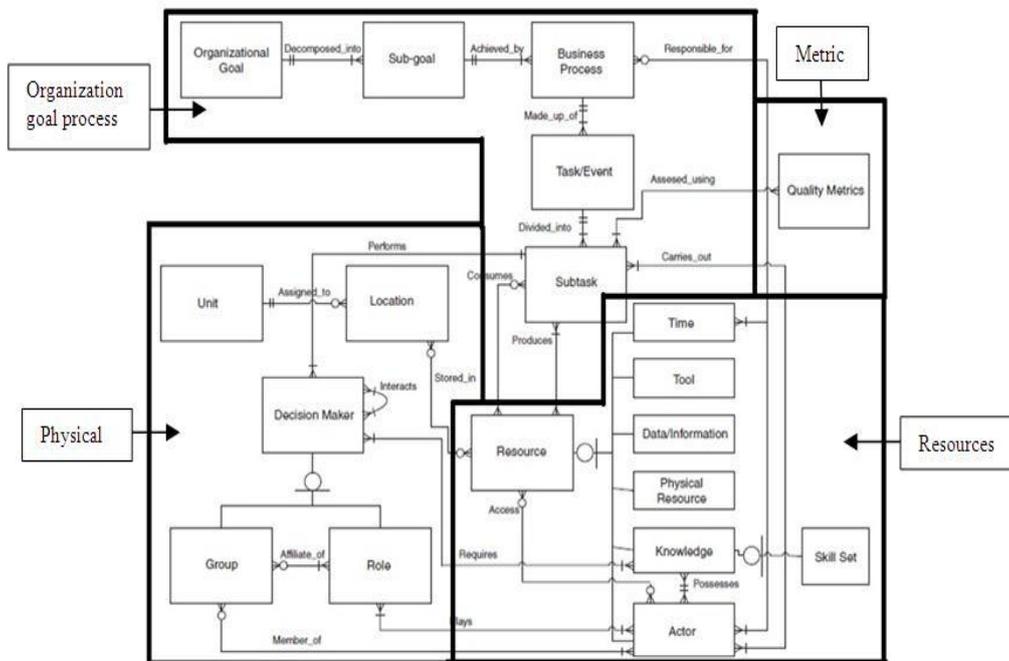


Figure 3: Organizational ontology (Rao et al. [4]).

Based on the above discussion, we propose the extension model of the organizational goals ontology as shown in Figure 4. In this figure, we show that each organization has many organizational goals and each organizational goal consists of sub-goals. In order to identify the level of the organizational goals achievement, organization relies on organizational resource which is data to evaluate this level of the organizational goals achievement.

Compare to Sharma & Osei-Bryson [2], our organizational goals ontology focus on the usage of organizational data instead of knowledge, information or tools because organizational data is a major resource in every organization and it is important to evaluate the relevance of this organizational data in achieving the organizational goals. We also suggest organizational data is important as information and knowledge to assist the decision-making process [1].

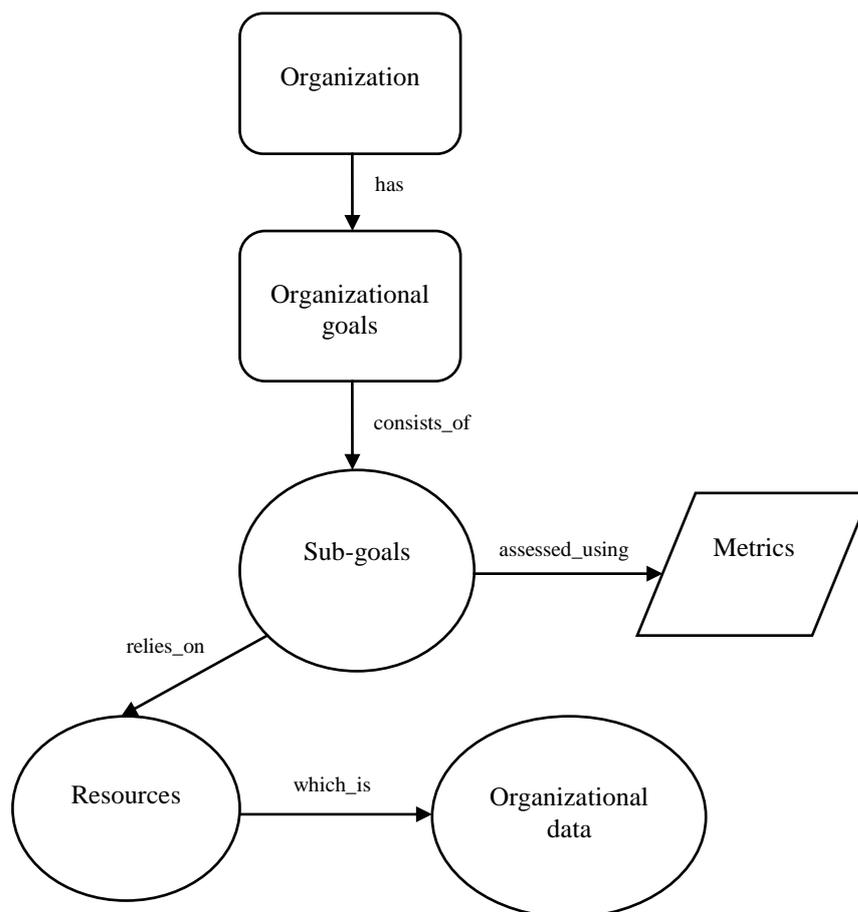


Figure 4: Organizational goals ontology.

In organization, it is extremely important for the manager to have access to the most relevant organizational data in relation to the organizational goals. Simsek et al. [13] pointed out that sharing important data and information can provide the required knowledge to assist successful decision-making. It is crucial for organizations to create and generate new data and evaluate it to enhance decision-making. Different ways of generating new ideas, information and knowledge will help in terms of decision-making and will enable teams within the organization to use the most relevant organizational data to successfully achieve the organizational goals.

Data is presented in many forms such as documents and statistics. These data are the most important resources in relation to the organizational goals. In this thesis, we defined this data as organizational data and we refer to this term in the rest of this thesis.

At the same time, Figure 4 is different to other studies which either did not include metrics at all [2, 12] or only used the metrics to measure the knowledge within the organization [4]. However, in this research we introduce metrics as a measurement tool to analyse organizational data that relate to the organizational goals.

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