Regulation Based Linking of Strategic Goals and Business Processes

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To be able to make changes to a business process, it is necessary to understand how the process supports the strategic goals of the business and how changes to the goals may impact the process and vice versa. This paper explains the relations between strategic goals and business processes by adopting a regulation point of view. This point of view holds that the main property of business systems is their constancy. A business achieves constancy by regulating its relationships with other business entities. We model this constancy with maintenance goals which could be seen as a more precise definition of strategic goals. We then link these maintenance goals to achievement goals that correspond to operational goals. We further link these achievement goals with the business processes designed to achieve them.

1 Introduction

To understand the relations between business processes and the strategic goals of a business, it is necessary to understand the most important properties of the business seen as a system. The regulation view of the world [8, 7] holds that the main property of systems such as business systems is their constancy. Systems are constant because if they weren't, they would disappear. This view of constancy is motivated by the application of the law of entropy in physics [9]. The law of entropy says that the world tends to move towards states that increase its entropy, i.e. increasing disorder. The systems that we see around us are islands of order within this general tendency towards disorder. Thus, if we can observe a system over some period of time, it means that this system remains constant (or at least some of its features remain constant) during this period of time. For some of the features to remain constant, they must be maintained constant with respect to the environment that tends to bring this constancy into disorder. Thus, a system maintains its constancy by regulating its relationships with other systems in its environment, i.e. by imposing order in these relationships. This order is continually maintained with respect to influences that the system believes affected or will affect this order.

Businesses regulate their relationships by specifying relationships to be maintained and relationships to be avoided [3] as well as by specifying the value that is provided to each relationship. The regulation of these relationships can be defined as the strategic goal for the business because this regulation is directly linked to the survival of the business.

Business processes are the mechanisms that businesses use perform the regulation specified by the strategic goals. Business processes are generally understood to be [10], “a set of partially ordered activities intended to reach a goal.” This goal is usually called an operational goal. Thus, business processes are usually considered to be means for achieving operational goals, the operational goals being driven by strategic goals.

We believe that business processes can also be analyzed in terms of the business relationships that they were designed to regulate and the beliefs of the business about these relationships. Together, the regulation of the relationships and the beliefs of the business give a rationale for the activities composing the process and the partial order specified by the process.

In this paper we show that a regulation point of view can help in the understanding of the connections between strategic goals, operational goals, and the business processes that implement those operational goals.

In section 2 of the paper we examine the concepts of strategic and operational goals, showing that they can be modeled with the concepts of maintenance goal and achievement goal respectively. In Section 3 we show how the maintenance goals and beliefs of a business can be defined through the analysis of its business processes. In section 4 we show how the beliefs and the business process can be adapted when the maintenance goals change.

2 Strategic vs. Operational Goals

The workshop associated material [11] defines the difference between strategic and operational goals in the following terms:

- Strategic goals "explain why the process exists/should exist in the organization, and why it should be driven in a certain way."
- Operational goals "concern process instances, and they show when a given process instance can be considered as finished."

The second definition shows that an operational goal can be used to define when the desired outcome of the corresponding process has been achieved. In the field of requirements engineering this kind of goal is called an achievement goal [1, 4]. An achievement goal should state in measurable and agreed upon terms what is to be achieved so that its achievement or non achievement can be judged without doubt.

The definition of strategic goals above does not include these clear cut criteria of achievement and there is a good reason for this. Strategic goals have to do with the highest level needs of the business. In most cases, the highest level goal of a business is to survive i.e. to maintain some constancy. Businesses survive by maintaining certain relations with some entities in their environment and avoiding others. That is, they regulate their relationships with, for example, customers, employees, suppliers, investors, government agencies, competitors etc. While maintaining customer relationships is considered as strategic in most businesses, maintaining relationships with the other entities mentioned above is no less strategic. Since these relationships must be maintained over a long period of time, usually for the lifetime of the business, they have no specified end in time.

This maintenance or avoidance of relationships can be modeled with the concept of maintenance goals [1, 2, 4]. Dardenne et al. [4] defined the concept of maintenance goal as the maintenance of some property in all future states of the system. Anton [1] defined the concept of a maintenance goal as a goal that is "satisfied while its target condition remains constant or true." Anton further specifies in [2] that, "maintenance goals are usually high level goals with which associated achievement goals should comply.

In our framework, we take this statement one step further. We argue that maintenance goals can be used to model a business's regulation of its relationships and are therefore adequate for modeling strategic goals. A maintenance goal can specify both avoidance and maintenance of relationships, for example, avoid customers who have bad credit, and maintain relationships with customers who have good credit.

A business also has a set of beliefs about itself and its environment. Most of these beliefs usually remain in implicit form within the business but are shared within the business. Understanding these beliefs helps to understand how maintenance goals drive achievement goals and how achievement goals are implemented by business processes.

The link between maintenance goals and achievement goals is done by understanding how a business enforces a maintenance goal with regard to a special form of belief that we call an influence. An influence is a belief of the business that some of its maintenance goals are either in danger or that they can be enhanced. When the business senses such an influence, a debate among the business people about possible actions will follow [7]. If this influence is sensed to be of sufficient importance, the business will take some action which can be modeled through the concept of an achievement goal. This action will be planned, that is, the achievement goal will be reduced to subgoals which are believed, by the business, to lead to the expected result of compensating for the influence on the maintenance goal. Moreover, the plan will be made with respect to the beliefs of the business about the relationships that will be affected by the plan. For example, a business that believes that customers cannot be trusted

to pay for goods after they have received them will define a different plan from a business that believes that customers can be trusted.
The plans that the business has defined usually become part of the accepted behavior of the business. When the business investigates its processes these accepted behaviors are described as business processes [5].
Thus, we have shown that maintenance goals and influences motivate achievement goals and the achievement goals are implemented by business processes that embody implicit beliefs of the business. Business processes through their impact on business relationships directly or indirectly create influences on the maintenance goals of the business.

3 Finding Strategic Goals from Business Processes

In this section we show how the maintenance goals and beliefs of a business can be defined through the analysis of its business processes. The set of activities composing a process and their order can be modeled with a set of rules. For example, the business process of a sale in a web based mail order business can be defined with the following rules:

1. If customer wishes to purchase goods then enable customer to select goods
2. If customer has finished to select goods then compute the total amount of the sale
3. When total amount is computed transmit total to customer and wait for payment to be received
4. If payment received then verify payment
5. If payment ok then deliver goods to customer

What can we say about these rules? In general this collection of rules is simply viewed as achieving the goal of selling the goods to the customer, but the rules tell us much more if we analyze them in terms of the relationships they regulate.
First of all, the rules name a customer so we know that we have a relationship with a customer. However, the rules regulate other relationships. To see which ones, we can ask questions that seem very naïve in this simple example, such as: what is the goal of rules 2, 3, and 4? The obvious answer is: to insure that payment is received before the goods are delivered. But why is a payment needed? If the strategy of the business is to insure customer satisfaction, isn't a good way to achieve this satisfaction to deliver goods for free? Obviously, customers would be satisfied to receive the goods for free, but we all know that in most cases this is not a good long term strategy for the business. The reason for this is also obvious. The business has other relationships than the customer that it needs to maintain in order to survive. Some of these relationships are the employees, the investors and the suppliers, all of which need to get paid for their services or else they will abandon the business, which will not survive for long.
Since these relationships are so important to the business, we can assign the business the following (strategic) maintenance goals (this kind of goal usually appears in company mission statements):

1. Maintain good customer relationships
2. Maintain good employee relationships
3. Maintain good investors relationships
4. Maintain good suppliers relationships

The rules of the sale process also tell us some things about the beliefs of the business. As noted by Hammer in [6, p. 214]: "Employee values and beliefs must be consistent with and support the design of the company's business processes." We extend this statement by noting that the business processes currently in place are motivated and consistent with current employee beliefs. These beliefs are often shared by most employees of the business and generally remain in tacit form rather than being explicitly defined (processes may be defined by managers but employees who implement them usually share the same beliefs as the managers). In the case of the sale process, we can therefore infer some of the business's beliefs by analyzing the rules above, which yields the following list of beliefs:

1. Customers cannot be trusted to send payment after goods have been delivered (justifies that rule 5 is at the end of the list).
2. Customer payments may not be valid (justifies rule 4)
3. Customers trust the business to deliver the goods when payment has been received and verified (justifies rule 5)

These beliefs usually remain implicit in the definition of the business process but they justify the existence of rules. Another interesting point with the relations between the beliefs and the rules is that some rules are justified by several beliefs, such as rule 5 which is justified by beliefs 1 and 3. If either of these beliefs is proved wrong then either rule 5 makes the sale process inflexible because it is impossible to deliver the goods to the customer before the payment is received and verified, or rule 5 is downright unacceptable to customers. The business process can be changes so that goods can be shipped before the payment is received and checked. However, is this the right thing to do? This is the subject of the next section.

4 Refining the strategy and Redefining Operational Goals

Up until now we have analyzed the sale process which resulted in the definition of a set of strategic goals for the business and a set of beliefs that justify the activities composing the process. The question now is: Is there anything to change in the process? The answer is that this depends on a change, either in the strategic goals of the business or in the environment of the business. Let's consider a change in the strategic goals of the business. Let's imagine that the business we are talking about is based in the United States and has now decided to pursue international markets. By doing so it is forcing on itself a change in the environment. This change will bring the business into relationship with a different kind of customer and this relationship will have to be maintained as well. So we can model this new strategic move as a maintenance goal such as:

- Maintenance goal: Develop and maintain international customer relationships

In most cases this maintenance goal is not intended to compromise the other maintenance goals of the business such as maintaining the US customers relationships (unless as sometimes happens, a business decides to abandon a market).
Considering a country like Switzerland where the mail order business may want to develop its customer relationships, we see that far less people have credit cards than in the US. Checks are almost never used either. So how is the business process requiring a verified payment before the delivery of goods going to work in a country where many people cannot, and don't want to, make payment before the delivery? It so happens that in Switzerland most mail order companies trust the customer enough to deliver the goods with a payment stub that customers can then use to pay for the goods in a post office or through their bank. This aspect of the environment can be translated into the following beliefs:

1. Customers **can** be trusted to send payment after goods have been delivered
2. Customers expect businesses to trust them for sending the payment after the delivery of the goods.
3. Customer payments done through payment stubs are always valid

Thus, the beliefs of the business need to change in this new environment or else it will only be able to address a small part of the new market it is moving into[1]. And the change in beliefs has implications on the sale process that can now be defined as:

1. If customer wishes to purchase goods then enable customer to select goods
2. If customer has finished to select goods then compute the total amount of sale

[1] Note that ignoring the part of the market constituted by customers with no credit card is also a possible strategic goal. In this case we will have a maintenance goal such as: Avoid customers with no credit card. Stating this strategy explicitly helps the business revisit it when needed.

3. When total amount is computed print a payment stub
4. Deliver goods and payment stub to customer
5. Monitor when payment has been received and send reminder to customer if not received after n days

The two processes may coexist in the business but applied in the two different environments that the business operates in. Indeed the US version of the process is not adequate in Switzerland while the Swiss version is not adequate in the US where payment stubs may not even exist. Thus, it becomes clear that a business process is the result of the maintenance goals of the business and its beliefs about the relationships that the business has with its environment.

5 Conclusions

In this paper, we have shown that strategic goals can be better understood when linked to the fundamental property of business systems which is their constancy and thus can be modeled as goals that maintain and avoid relationships with other business entities, i.e. maintenance goals. We have shown that maintenance goals drive achievement (or operational) goals through the business's beliefs about the influences exerted by the business's relationships on its maintenance goals. We have also shown that business processes can be seen as the mechanism with which the business regulates the multiple relationships that it needs, to insure its survival. Through this regulation, the business seeks to maintain some relationships and avoid others. By analyzing a business process we can define which relationships are maintained and avoided by the business and what are the business's beliefs about these relationships. This gives us an understanding of the mutual impacts between strategic goals, operational goals and business processes.

Understanding the relationships that a business process regulates is of the utmost importance. As defined by Hammer [5], "Reengineering requires looking at the fundamental processes of the business from a cross-functional perspective." This is so, specifically because a business process regulates multiple relationships that are essential for the business's survival. In order to contribute to the survival of the business the effects of the business process on these relationships must be understood.

6 References

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