

CHAPTER 6

A TASK AND ITS VALUE

This chapter discusses how a user derives value from a Brand. First the fixed benefit concept for a Task is established. Next the value of the Brand, for a user, is defined as the accumulation of the value the user ascribes to each Task addressed by the Brand.

This chapter presents task value as established by the user/task coupling. This is a micro approach to establishing value others [Tassey02, page 3-6] have taken a macro approach ([explain what the macro would look like](#)). It builds the value at the lowest operational level by user by task. It is at this level of detail that information can lead to action, for the user and the developer. This is the core premise of UTSQ.

FRAMEWORK

At this stage in the UTSQ development we are going to loosely define task by what it is similar to and by what it is not.

Work Product

Technologists have a habit of confusing the user's goal with a specific technology process. UTSQ make a clear distinction. The user's goal is defined as the desired Work Product. A legal brief, construction drawing and the interception of an incoming missile are examples of a Work Product.

When done correctly the description of a Work Product is devoid of any mention of the processes or technology used to accomplish the Task.

Work

An event or item that addresses the user's goal. The goal is defined by a set of requirements. In some case the requirements are formally stated - by law, by design documentation, etc. - and in other cases the requirements are informally set or loosely understood.

Product:

Task

A task is closely related to the work product a user wishes to create. For example, architectural plans for a house, cutting the end-of-the-week payroll, and producing a document are all work products that map directly into a task. However, intercepting an incoming missile is also a task of a software intensive system even though it is not normally viewed as a work product.

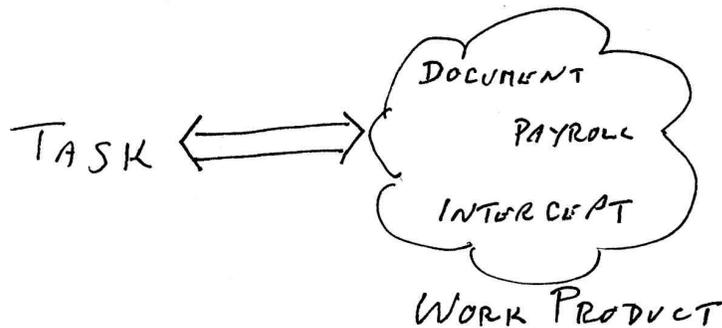


Figure 9-1: task relationship to Work Product

Functionality within the software intensive system is not a task. The functionality can be used as part of the resources used to accomplish a task. In most cases, a task will require multiple resources - human resources, software functionality, and external resources.

Thus the definition is:

Task:

A user initiated process that generates a desired `_Work Product_`. The task is accomplished by one or more actions utilizing multiple resources including system functionality, user knowledge and external resources.

"Fixed Value" of a Task

In the UTSQ model a user ascribes a value to each task. The model uses a "fixed benefit" concept to define a value. . Once a task is addressed by a brand, the user experiences maximum value or a fixed value. That is to say, two brands producing exactly the same work product for a given task deliver exactly the same value to a user.

Figure 9-2: Fixed Value Example



In fact, the test that two brand both address a given task is similar to the Von Neumann test for artificial intelligence – if you can not tell whether the answer is from a machine or a human, the machine has achieved artificial intelligence

Fixed

Value:

Given a task, the work products produced by alternative brands are indistinguishable in the value they return.

For example, if the task is a 2D architectural drawing, two sets of drawings virtually identical have the same value to the user regardless of how they were produced. This is true even if one was generated from a task that was extremely difficult for the user and the other was generated from a task that was almost completely intuitive, i.e. the cost of a task, as defined in a later chapter, is separate from the value. The value is fixed.

Value Estimates

UTSQ requires a determination of value for each task by each user. In many situations this may be difficult to establish. However, even though it may not be obvious, users have values established. This can be demonstrated by the simple observation that Microsoft Word priced at \$2,000 a copy would have substantially smaller sales. Thus users that product about 200 documents a year have placed a value of less than \$10 a document. And, because of huge sales volumes at current pricing they value documents at more that \$2 each. Thus a good estimate of average value is in the range of \$2 to \$3 per document produced.

Even if establishing a value is difficult, a rough estimate is superior to precise ignorance.

ECONOMETRIC MODEL

The centerpiece of the economic model is the user/task coupling as presented below:

Task Notation

(6-1) \hat{T}_δ The set of all tasks as of period δ within the domain.

(6-2) $\bar{T}_{b,\delta}$ The set of all tasks addressed by brand b in time period δ .

(6-3) $\hat{T}_{b,t,\delta}$ A specific task t addressed by brand b in time period δ , i.e. $\hat{T}_{b,t,\delta} \in \bar{T}_{b,\delta}$

Value Model

(6-5) $v_{u,\delta}(\hat{T}_{t,\delta})$ The value user u ascribes to task t in period δ . This value is independent of the brand associated with accomplishing the task.

Where

u Is a specific user within the set of all potential users U .

Complexity Reducing Assumptions

This paper presents “first approximation” of a full economic model. Appendix A presents three assumptions made to simplify the model and make it easier to understand the conceptual framework.

- **Additive Value**

The value of a Brand to a user is the sum of user value for each Task. See (A.1) for details.

- **No “Veto” Task**

No Task exists that if excluded from a Brand that has no value to a user. See (A.2) for details.

- **Symmetric Value**

If two Tasks are of equal value, then either Task added to a group of Tasks creates the same total user value. See (A.3)

These assumptions exclude directly modeling a situation where: 1) Tasks have interactive properties, i.e. two Tasks together are of much greater value than simply adding the individual user value of each Task, and 2) a “must have” set of Tasks exists. See Appendix A for the full discussion of the assumptions, why they produce a reasonable model, and an extension of the UTSQ model to include these properties.