

## LEAD USERS OF POSITIONAL VALUE

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### ABSTRACT

A number of sources have shown through empirical research that users' contributions in developing new innovations are significant. User innovation is often carried out by so called 'Lead users' (von Hippel 1986). They are users who 1) face needs that will be general in a marketplace – but face them months or years before the bulk of that marketplace encounters them, and 2) are positioned to benefit significantly by obtaining a solution to those needs. For companies, Lead Users are a highly interesting source of information since they might reveal new trends and business opportunities. However, one of the challenges in Lead User theory is that it is easier to recognize a Lead User ex post, i.e. after the new invention has happened, but so far very limited advice has been introduced regarding how to know ex ante where to find Lead Users.

With the help of two concepts – Situational Lead User, Positional Lead User - we propose a framework which makes it easier to find potential lead users ex ante. Thus, it has direct implications for early phases of e.g. design process of tangible products and services.

*Keywords: Lead Users, value, consummation process, contexts*

### 1 INTRODUCTION

A number of sources have shown through empirical research that users' contribution in developing new innovations is significant. Examples from various fields – from library information search systems to mountain bikes – show that the fraction of users creating innovations among all users in the field varies from 10 to 40 % (Morrison et al 2000; Lüthje 2003, Urban & von Hippel 1988; Lüthje et al 2005; Franke & von Hippel 2003; Lüthje 2004; Franke & Shah 2003). User innovation is often carried out by so called 'Lead Users' (von Hippel 1986). They are users who: 1) face needs that will be general in a marketplace – but face them months or years before the bulk of that marketplace encounters them. 2) Lead Users are positioned to benefit significantly by obtaining solutions to those needs. Thus, in the very core of the Lead User theory is the assumption that someone always faces the need first. And, importantly, Lead Users develop solutions for their own needs before any commercial offerings are available.

For companies, Lead Users are a highly interesting source of information since they might reveal new trends, business opportunities, and even innovations. However, one of the challenges in Lead User theory is that it is easier to recognize a Lead User ex post, i.e. after the new invention has happened and after the new "trend" has been established, but so far very limited advice has been introduced regarding how to identify ex ante where to find Lead Users. "It's an axiom of the process that lead users are ahead of the trend. But what is the trend? To find out, the team must talk to experts in the field they are exploring, people who have a broad view of emerging technologies and leading-edge applications in the area being studied" (Von Hippel et al 1999). At the moment, it is suggested that Lead Users can be found by a "pyramid method". That is, simply asking experts from the field, who they think are experts. This is expected to lead towards the cutting edge of the field, i.e. towards true Lead Users who are facing needs that no-one is facing at the moment, but will be in the future. What is more, experts in any field usually know other experts not just from the target market, but also from other key fields that are somehow related to the target market (Von Hippel et al 1999). Some relations or trends might be quite straightforward to detect. For instance, weight issues are important in ocean racing sailboats. However, weight is even more important in space ships. In that sense, space technology is an "analogous" field to sailing boats, and thus true Lead Users of weight issues might be found among space ship designers. However, there are several other relationships that are not so straightforward to detect but would be

highly valuable to analyze thoroughly. In the following, we propose a framework which 1) provides systematic means of determining “the field” and “analogous fields”, and eventually 2) makes it easier to find potential lead users *ex ante*.

## 2 KEY CONCEPTS

In order to be able to build the framework, we need to define the vocabulary and the concepts in question. The term Lead User was already defined in the introduction.

### **Consummation Process**

From a customer's point of view, value or innovation or product is a relevant concept only when associated with a consummation process. In this paper, the term consummate (i.e. ‘complete, perfect’) is preferred to the term consume (i.e. ‘destroy, use up, waste’) since customers always play an important role in value creation efforts; they co-define – and co-create value together with the company rather than use it up. Therefore, on top of the commercial offerings and propositions, the customer's own life and its unique circumstances affect how much value is eventually created and realized. Consummation process refers to all the linear or cyclical phases – separated by temporal, spatial, sensorial, and/or cognitive triggers – which the customer experiences during consummating the offering. This whole consumption experience is variously known as the Customer-Activity Chain (Vandermerve 2000, Sawhney et al 2004), the Consumption Chain (MacMillan & McGrath 1997, McGrath & MacMillan 2005), the Buyer Experience Cycle (Kim & Mauborgne 2005), and, especially among service design practitioners, as the Service String (Koivisto 2008). Typically a process begins by becoming aware of a need and usually the process ends when the customer finally gets rid of the offering.

### **Intrinsic Value and Intended Value**

Usually, when we think of a product and its value, we concentrate on its intrinsic value: A car has value as a car (one can drive to horizontally distributed places) or a mobile phone has value as a mobile phone (one can communicate between spatially distributed people). Intended Value refers to this intrinsic value dimension but from a consummation process's point of view: when the offering is used as intended it is “releasing” its intrinsic value or intended value. Von Hippel's Lead User usually refers to a lead user of intrinsic value whether or not there is an actual product available.

### **Situational Value and Situational Lead User**

Hannukainen and Hölttä-Otto (2006) studied the use of a mobile phone, and compared the user needs of disabled users to those of situational disabled users. By situational disability they mean a situation where an able-bodied user is not able to perform “normally” but the use of his or her senses or limbs is hindered: when driving a car and therefore not able to use hands, when there is no light and therefore not able to see, and when there is noise and therefore not able to hear, for example. Hannukainen and Hölttä-Otto showed that user needs of situational disabled users overlap with the needs of disabled users. They also showed several examples of leading edge behavior of disabled users, and concluded that disabled users can be seen as lead users.

We would like to call the disabled users in Hannukainen and Hölttä-Otto's example Situational Lead Users (SLU). Situational lead user is a lead user of intrinsic value but in a special situation. They are lead users found in a “grey area” where a product still has intrinsic value, i.e. it is used the way for which it was designed, but the context of use does not fit in the designed consummation process. Complete darkness, for example, is not part of the designed consummation process for a mobile phone, but a special situation. As Hannukainen and Hölttä-Otto showed, a blind person would be a valuable source of user need data when thinking of the target customer – an able-bodied customer – using the phone in this special situation, in other words, a blind person would be a situational lead user.

### **Positional Value**

Corporate raiders have always recognized that another type of value, other than Intrinsic, exists. They acquire companies, chop them up, and sell them in pieces to somebody in whose context the piece has more value than in its original context. In his book Normann (2001) goes further in this dimension and shows through several real life examples that assets can have value both as intended in its original value configuration and, at the same time, in a totally different value configuration. For example, bus stops have intrinsic value in public transport systems as a waiting area where busses stop. Since a great amount of people tend to stand for a while in the close proximity of the bus stop, it is also an attractive spot for advertisements. This means that on top of the intrinsic value in public transport systems, the bus stop also has positional value in the advertising system. JCDecaux realized this several decades ago and invented the “street furniture” concept. Thus, at a general level, in addition to intrinsic or intended value in the original value configuration and consummation process, assets contain value to other value configurations and in other consummation processes due to their position. We would like to call this ‘Positional Value’.

Let us take other examples. Galeries Lafayette Gourmet, a French grocery store, started its regular Thursday nights for singles in 2003. Galeries Lafayette Gourmet provides singles with special purple shopping baskets. Thus customers create value for the shopkeeper, and the intrinsic value of the shopping basket, which is carrying items of shopping. However, customers, in this case singles, provide value to other singles in the shop, and the purple shopping basket acts as an indicator of that positional value dimension. EF Education, the world’s biggest language school, uses ordinary families and their homes as accommodation facilities for their language school students (Normann 2001). The Williams Companies Inc used its network of natural gas pipelines to run fiber-optic lines through the pipelines, and lease them to start-ups in the newly deregulated telecommunications industry (Boulton et al 2000). What is common in all these examples is the notion that positional value is like a by-product of the intended value. The attention of people waiting for a bus is a by-product of public transportation systems; a pipeline used for something other than gas is a by-product of a pipeline for natural gas; an accommodation option for foreigners is a by-product of ordinary homes; and the singles’ signaling option of the shopping basket is a by-product of carrying items in shops.

### 3 PROPOSED FRAMEWORK

Companies usually develop new offerings and their core features with certain contexts of use in mind; to be used in a boat, in a factory, or outdoors in a forest, for example. In other words, companies try to satisfy the user needs in the chosen context of use. The company also imagines a consummation process that would result in the desired outcomes for the customers. In other words the company “loads” the offering with intended value (see Figure 1). Lead Users are traditionally understood to be lead users of this intended value. For example, if a surgeon develops a better tool for the operating room, he is a typical Lead User (LU).

Very often products are used in situations or contexts other than those for which they were designed by the company. For example, as Hannukainen and Hölttä-Otto showed (Hannukainen, Hölttä-Otto 2006), a mobile phone is often used in situations outside the context of the intended use for which it was designed. When the phone is used in complete darkness or when driving a car, it still has intrinsic value, but the context of use is no longer in the ‘intended value zone’, but in a ‘situational (dis)value zone’. Operating properly in a situational (dis)value zone often requires accessories, add-ons or other extra features on top of the core features. When a blind person develops a solution that would help a user with full vision to better use the mobile phone in darkness, the blind person is a Situational Lead User (SLU) (see Figure 1).

Earlier examples showed bus stops having positional value in advertising, ordinary homes having positional value in a language school system, and shopping baskets having positional value in the dating system. And, as described earlier, positional value is like a by-product of the intended value. Utilizing positional value dimensions usually requires utilizing by-features or by-assets. Therefore we propose that there must be *lead users of positional value*, analogous to *lead users of intrinsic value and situational*

value. Accordingly, Positional Lead Users (PLU) refers to people/companies who fulfil his/her needs with by-features of artifacts or assets originally intended for something-else.

Let us take two examples to elaborate the PLU concept. Fixed routes, stopping points (i.e. bus stops), and schedules are established in order to enable people to use buses. Everyone using this public transport system are either passing by or waiting at bus stops. Thus, a lot of attention is available as a by-product of that system. Attention itself is a necessary but not a crucially important issue in public transport systems. There are other systems that need attention more than the public transport system. For instance, the advertising system is based on attention. Thus, people and firms in the advertising business are (at least potentially) Lead Users of attention, which happens to be a by-product of mass transportation systems.

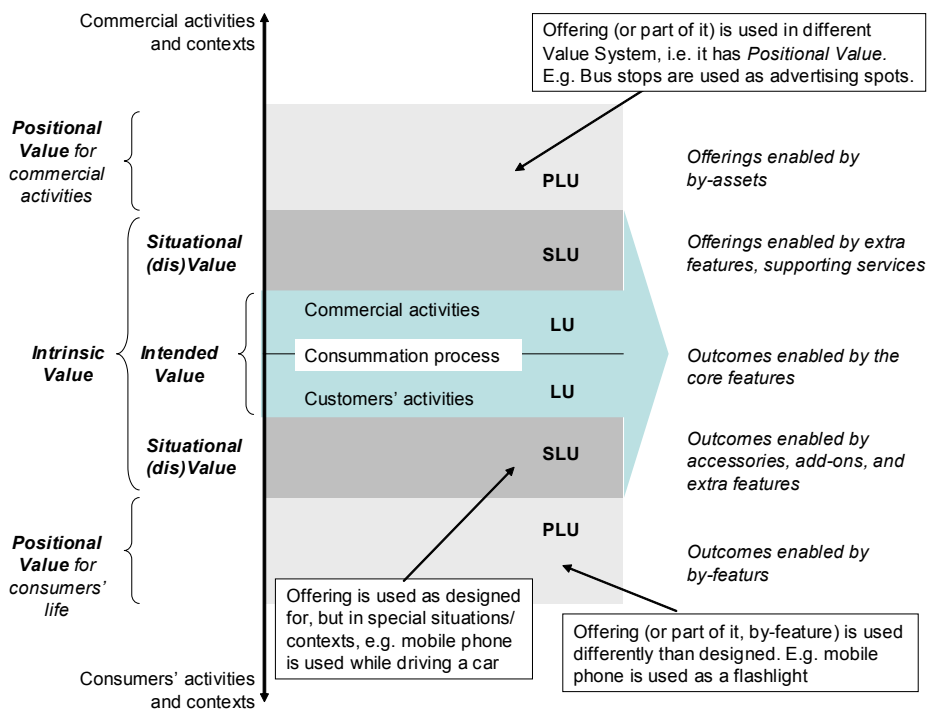


Figure 1: Lead Users (LU), Situational Lead Users (SLU), and Positional Lead Users (PLU) in relation to consummation process.

In order for a user to be able to see what is shown on the screen of a mobile phone, the screen must be lit. Usually, the screen is lit automatically, when the user presses keys on the phone. The amount of light that the screen emits is not significant in bright daylight, but it is substantial when the amount of external light is small. There are cases when the user in fact has used the by-feature of a mobile phone – light in the screen - as the primary source of light (Hannukainen 2005:52). Nowadays mobile phones with integrated small flashlights have been introduced to the market (C3100 of CEC Telecom Co. and Nokia 6110, for example). Also separate small flashlights that can be attached to any mobile phone are available on the market. It is hard to say how companies ended up with the idea of integrating a flashlight into their phones, but in retrospect one can say that the companies could have found the idea through examining positional lead users. This is analogous to the traditional lead user theory (presented earlier in this paper), which suggests that companies can benefit from lead user innovations. To sum up, all the products, offerings, and consummation processes contain a great variety of by-features, by-assets, and by-products – and there is always someone ‘starving’ for those; potential Lead Users of Positional Value.

#### 4 FINDING LEAD USERS

How to find Lead Users with the help of the proposed framework? Potential Lead Users can be found by

analyzing

- 1) Core features,
- 2) Outcomes,
- 3) Situations when people are momentarily disabled, and
- 4) by-features/by-assets.

A core feature of a bus system is that it enables horizontal movement from place A to place B. A core feature of a ring is that it fits and holds round the finger. A core feature of an elevator is that it enables vertical movement. Direct competitors of a bus company are the other bus companies operating in the same geographical area. The bus business of transporting people is “the field” from which experts are sought in order to find the traditional (intrinsic value) Lead Users. However, just analyzing direct competitors is not the whole picture. The situation can be elaborated by asking what other offerings have the same core feature, i.e. what are the substitutes? In the case of a bus, for instance, trains, taxis, cars, bicycles etc. are the substitutes. Importantly, all of these substitute offerings having the same core features are better than a bus in some contexts and for some purposes. In addition to analyzing directly competing offerings, analyzing those substitute offerings and experts in those “fields” might also reveal potential Lead Users.

What are the outcomes then? For instance, being able to participate in work, to visit a museum, pick up stuff etc. are outcomes enabled by core features of a public bus transport system. By analyzing what other alternatives enable people to participate in work and who are the most advanced users in those fields is one way to find potential Lead Users. And, as Hannukainen & Hölttä-Otto have described, disabled persons being experts in situations that mainstream users face at certain moments in various contexts, are one possible group to look at for new solutions. Finally, all the by-assets, or by-features point towards other groups of potential Lead Users.

## 5 DISCUSSION

The framework proposed offers a systematic way to find potential Lead Users, even ex ante, i.e. before the actual invention has happened. This can be done by analyzing core features, outcomes, contexts where users are situational disabled, as well as going through by-assets and by-features. Each of those dimensions provides different kinds of potential sources of Lead Users.

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