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Lead User's theory adapted to services: Towards Service User's Toolkit

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Abstract:

It makes no doubt that the development of innovative products benefits from being considered under the perspective of networks and communities. Lead User's theory (LUT) focused mainly on the process by which user innovation may be transformed into commercial product. However, when LUT methodology was proven successful for products such as scientific instrument, sports equipment or even medical instruments, very few experiences were reported for services. Thus, the specific contribution of the paper is to adapt lead user's theory and practice to the specific case of the intangible processes and services such as Banks, Call centers, etc..., in the purpose of improving efficiency of innovative efforts. In a first theoretical part, the paper reviews service characteristics which prevent adoption of LUT methods. Four main factors are identified and investigated in details: intangibility, inseparability, process based aspects of services and investment cycle in services. Based on these analyses, the paper suggests a specific framework for applying LUT methodologies in the case of services. It details first recommendation on the way to select potential lead users. Then, it recommends the way lead users should be associated and involved so that potential innovation may be proposed. The concept of communities applied to services is proposed and discussed from managerial point of view. Perspective of further research is then detailed.

Keywords:

Lead Users, Service Innovation, new service development, innovation tools

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Introduction

It makes no doubt that the development of innovative products benefits from being considered under the perspective of networks and communities (Chesbrough, 2003) as they may have tremendous effect on knowledge creation (Lawson et Al, 2009, Marsh and Stock, 2006). Far from the Schumpeterian "producer based" dominant mode of innovation, the dynamic of developments benefit from being shared between multiple actors, formally or informally associated into projects. Among the contributors of what has to be considered as a paradigm shift (von Hippel, Chen Jin, 2009, Baldwin, von Hippel, 2009), Von Hippel's research contributed by putting the emphasis on the major contribution users may have in initial stages of innovation.

When Lead Users Theories was proven successful for products such as scientific instrument, sports equipment or even medical instruments (von Hippel, 1988, Shah, 2000, Lettl et Al, 2006), very few experiences were reported for services. This may be explained by well known characteristics of services such as intangibility, inseparability and heterogeneity. For example, it is asserted by LUT that lead users are due to generate innovation during the use of the product to get better performance in situation. As far as intangible offers are simultaneously produced and consumed, appropriation and modifications are due to be difficult.

Lead User's theory (LUT) focused mainly on the process by which user innovation may be transformed into commercial product (Lilien et Al, 2002). Based on preliminaries observations (Pavitt, 1984, Von Hippel, 1988, Urban et Von Hippel, 1988), the LUT deeply changed the management of the fuzzy front end stages of innovation by designing processes where lead users transform their own needs into solutions. Considering the potential benefits of such an approach, which results into higher turnover, marketshare and degree of innovativeness (Franke et Al, 2006), the LUT recommended specific development processes, based on the selection of potential contributors according to their degree of involvement in the use of the products, and on their involvement in the design (von Hippel, 1986).

The specific contribution of the paper is to adapt lead user's theory and practice to the specific case of the intangible processes and services in the purpose of improving efficiency of innovative efforts. In a first theoretical part, the paper reviews the development methodologies proposed within the lead users frame. Then the paper use literature review on service characteristics in the purpose of highlighting which specificities facilitate or prevent the use of Lead User methodologies. The next part of the paper will propose sets of methodologies and tools for overcoming gaps between products and services.

Lead Users Theory

Lead user theory finds its source in the overall observation that some people adopt innovation before others, meaning that their own perceptions and needs may be adopted later by many (Rogers, 1994). Moreover, research focused on market orientation underlined that a close comprehension of client's needs and expectations, obtained by their integration into product development may be beneficial to companies (Narver and Slater, 1990, Jaworsky and Kohli, 1993, Avlonitis and Gounaris, 1999). Resulting from those conceptions, Von Hippel (1986) observed that, for many industrial products, initial ideas originated from customer's inputs. He demonstrated that product development may be facilitated by integrating to the development process the customers demonstrating propensity to bring new ideas and innovative solutions. The Lead User concept resulted from this initial research.

1. Definition, Main contributions

Underlining that diffusion of innovation is progressive leads to the conclusion that some users are due to be ahead of the trends and able to express before other needs and expectations. Von Hippel (1986) coined the term Lead Users and suggests that companies may associate them for supporting new product developments. Most of the assumption has been based on observations in industrial companies.

a. Existing Case Studies

Many authors contributed to the understanding of innovation developed by both users firm and individual end user. Von Hippel (1988) found that most of the scientific instruments as well as semi conductors innovation were developed by end users. Recent study revealed that process innovations done by user firms are common, leading to important transfer of the innovations to commercialising firms (De Jong, Von Hippel, 2009). Shah (2000) and Lüthje (2004) did similar observation for three sporting field. Franke et Al. (2006) observed that Lead Users are at the leading edge of marketplace trends, and by so contributed to attractive innovation. Lüthje et Al (2005) revealed that Lead Users based their own innovation practices on "local" information, already in their possessions of generated by themselves. Mainly based in industrial sectors, in depth observations revealed that the innovation was not produced internally but was the result of users initiatives, who, for their own uses, developed the new product.

Further research leded at 3M Company, famous for its culture of innovation; demonstrated that the adoption of development process based on Pioneer Users resulted into higher potential turnover (Lilien et Al, 2002). In depth comparisons with traditional development approach revealed that User based methods resulted into more innovative solutions corresponding to more specific needs and were due to generate significantly higher market shares.

Noticeably, very few surveys were leded in the field of services. Even though authors mentioned that Lead User Theory was designed for product and service innovation, the example they gave, the test which were made remained in the field of products.

Adopting Lead Users perspective entails designing specific methodologies for new product development. Two main perspectives were adopted for their implementation. First, companies have to identify and select relevant Lead Users. Second, they have to design the process by which they may contribute to the development.

b. Choice of the Actors

Demonstrating that Lead Users may be at the source of innovation entails being able to identify them. The question is to avoid ex post perspective. In other word, is it possible to associate individual characteristics to propensity to innovate. This assertion suggests that they may have individual intrinsic characteristics which put them in the position to generate innovative ideas. Von Hippel (1986) as well as Voss, 1985 and Lüthje, 2004 contributed to identify two main characteristics:

- Lead Users are supposed to have a superior competence and knowledge, especially market-related knowledge. Being present on the market place, they face needs before the bulk of actors may encounter them and will benefit first from finding innovating solutions. By using broad culture of the domain to link perceptions to the professional, economic and socio-cultural environment, lead users will be able to develop a capacity to have a vision of the product in its environment and by so to measure the potential of creative ideas.
- Lead Users are aware of innovation in their domain. Moreover they are able to imagine solutions to improve their own products or to design by themselves modifications. The degree of newness itself doesn't interest them as they are looking at specific features providing an expected result.

Based on those dimensions, Von Hippel (1988, 1999) proposed two methods for the identification of Lead Users, one based on questionnaire administration and the other based on identification by the peers. It must be noticed however that any stable scale or measurement means was formally tested, making the selection of Lead Users proposed in different article more managerial than theoretically justified.

c. LUT as a process

When articles emphasized the results of the methods, very few is provided about the process by which Lead Users are put in the position to contribute to development, while remaining outside the company. The research conducted with 3M (Von Hippel, 1999) as well as the one leaded at Hilti and Johnson and Johnson Medical (Lüthje and Herstatt, 2004) revealed a process made of four stages.

The first stage corresponds to the definition of the objectives and the settlement of the team group. Made of three to five experienced persons, the development group starts identifying and working with relevant stakeholders so that type and importance of innovation may be selected.

The second stage is made of the identification of major market trends as well

as analysis of the technical changes occurring in the aimed market. To do this, development team first gather usual information. Then they will interview more systematically the experts who are at the leading edge of the market. Due to the fact that those persons have a global vision of emerging technologies and application, it is possible for development team to finalise major trends which will be used in the following stages.

The third stage is specific to the Lead User Method. First the development group has to identify Lead Users in the trends they selected during stage two. To do so, they will ask people strongly involved in a specific domain to source reference persons identified as more expert than themselves. For example, computing engineer usually know the computing researchers able to solve specific questions. This research may be done within the targeted market or in markets where experimentation on similar problems is more advanced. For example, automotive industry willing to reduce the weight of the cars may look at the spatial sectors which used specific methods for lightening rockets and satellites. Once Leads User are identified, the development group is able to learn from the practices and solutions experimented by Lead Users in their day to day practices, and to formulate first drafts and concepts of potential products.

During the fourth stage, the development group gather the Lead Users in the purpose of improving the initial drafts. They will sometimes propose new concepts out of their own experience. Made of 10 to 15 people, such groups will finalise the concepts which corresponds to company's objectives and will eventually assess the technical feasibility as well as interest for customers.

Even though this process made of four stages is not questioned (for example, which action during the four stages should be considered as leading to good results), evidence from case studies demonstrated convincing results.

d. Existing research on LUT applied to services.

Even though the limited quantity of research on LUT applied to service reflects the limited interest devoted to service innovation in general, many arguments are produced in favour of using Lead Users for new service development. Alam and Perry (2002) and Alam (2002, 2005) demonstrated that the involvement of customers during the fuzzy front end of the development may result into a less "fuzzy" process. Similarly, Magnusson (2003) as well as Matthing et Al. (2004) revealed that innovative ideas provided by customers involved in new service development of end user mobile phone services were found to deliver more value to users and to be more original than those of professional developers.

More formal case of LUT applied to service demonstrated the relevance of the method for this sector. Von Hippel and Riggs (1996) applied the LUT to the field of electronic home banking. Their experiment proved to be successful from the bank managers viewpoint. Ideas provided by this approach produced significantly better information and novel service concepts at lower costs than with traditional marketing research methods. A second experimentation is provided by Morrison et Al. (2000). By focusing on the way Australian library

users modified information search systems, they confirmed that a significant proportion of users took the initiative to modify the system in order to improve value delivered. Those modifications were considered by systems producers to be of commercial interest. The users innovators were found to have a Leading Edge status if compared with average librarian. The Lead Users proved to be willing to share modification for information trading reasons, making the organisation of networking relevant. Similar conclusions were reported by Skiba and Herstatt, C., (2009).

Even though the first investigations and case studies reported positive and convergent conclusions, it must be said that the methodologies for implementation of Lead Users approaches are very diverse and not specifically adapted to specific services features.

e. Main questions and issues

Given the multiple evidence of positive results of the LUT to firm's innovativeness, it may no doubts that this approach represent a significant contribution to new product development methods. However, the LUT still present some issues that deserves further attention.

First, the reasons why Lead Users are able to contribute should be investigated in more details. It is mentioned by Von Hippel (2001) that Users have a great deal of need-related information about what they want and the context in which they could use innovation. The author qualify this information as being "sticky", this meaning that it is difficult to transfer directly to producers. Thus, conditions which facilitate transfer should be considered as a key issue, as developed by Nonaka and Takeuchi (1994, 1995). Using the concept of tacit knowledge which corresponds broadly to the stickiness approach of LUT should help to consider conditions under which knowledge may be transferable to other. Unfortunately very few is said on this issue, the methodology proposed in previous chapter being the sole answer to the topic.

Second, probably due to the fact that users have tacit knowledge about their needs, expectations and environment, the process by which identification of relevant users is made remains partially unclear. As any operationalization of the criteria "Lead User have superior knowledge of their market" and "Lead Users are at the leading edge of innovation in their domain", selection of individual may be biased. Becheur and Gollety (2000) proposed a first qualitative attempt to identify more precisely individual profiles that corresponds to the goal. Morrison et Al (2004) proposed a tested and reliable construct for measuring the "leading edge status" (LES) and found that people with high LES may contribute to both anticipation and accelerating early product adoption. However, given the few replications of proposed grids, empirical approaches based on identification by peers are usually adopted. Given the great importance of the Users in the process, their selection based on empirical and experience criteria raises some questions. Is success linked to the methodology used - for example to the fact that people from outside the company may produce more creative ideas by producing unexpected combination of ideas - or is it the effective profile of the users which leads them to produce relevant solutions? In this last case, are they specific features

or individual characteristics which made them able to contribute effectively to the development?

Third, most of the cases used to demonstrate the result of the methodology are mainly product innovation in business to business activities. Even though authors used repeatedly “new product and service”, very few examples of service companies are proposed. This may be due to random choice of companies or at the contrary to the fact that, due to specific characteristics of services, LUT necessitates some adaptations. Our purpose now is to analyse the service characteristics which appeals for an adaptation of the theory and methods.

Service Innovation

As services are generally defined as deeds, acts or performances that may be tangible or intangible (Berry, 1980, Grönroos 1990, Gupta and Vajic , 2000), it is widely accepted that the very nature of a service leads to studying service production and delivery in a systemic approach. Those systems typically include the back and front office, physical and technological infrastructure, contact personnel, customers as well as the interactions among all these elements. This systemic view has also been described as the “service concept” and formalized through the blueprint by which service providers design the way the service offering is to be delivered (Shostack 1984, Fitzsimmons and Fitzsimmons, 2001). This means that service innovation may be defined as a change (incremental innovation) in existing offerings or proposal of new deeds, acts or performance (radical innovation), backed by the transformation of some elements of the service concept.

Given their specific nature, it was asserted that service development processes requires three kinds of knowledge (Bitran and Pedrosa, 1998). First, it is necessary to identify the steps, sequences or procedural plans that have to be followed all along the development. Second, it encompasses principles and models which describes and plan expected human behaviours during the delivery of offerings. Third, it has to develop an understanding of the components of the system which much be adapted or designed for being able to deliver the offerings.

The specific nature of services offers both opportunities and problems to the management of innovation. For example, the contribution of customer to the value delivered makes them closer from the firm’s management with the result that a better understanding of needs and expectations may be achieved. On the other hand, the intangible nature of services makes them more difficult to test as prototypes. We would like now to develop service characteristics which may influence the way LUT may be implemented. We will then review the research work already produced in LUT applied to service to measure if those constraints were integrated in applied methodologies.

a. Intangibility

From the beginning of research on service, the deeds, acts or performances, due to their intangibility were considered as different from products. Even

though this initial assumption was challenged as being the result of product dominant logic (Vargo and Lusch, 2004), considering service as exchanges without ownership transfer leads to reinforce the fundamental intangibility of the service offerings (Lovelock and Gummesson, 2004).

Intangibility has multiple consequences on marketing activities as well as in the design of new offerings. First, the communication and transfer of new ideas will be made more difficult as they have no material support to make them explicit. Second, the design of new deeds, acts or performance will be made more difficult due to the fact that they do not exist formally until the performance is delivered. Third, as it is difficult to design prototypes which reproduce conditions of delivery, the test of first ideas will be difficult. As result, learning from consumer's preferences and reactions entails overcoming intangibility.

b. Inseparability and co-creation process

Due to intangibility, service offerings simply do not exist independently from customers. Moreover, clients are considered to be active co-producers of the value delivered. The specific position of the client in the offerings has major consequences on new service design. When innovations are due to change the production system, service innovation has to transform client's behaviours during delivery so that proper value may be delivered. Consequently, the way producer may support client's learning should be considered as a significant variable for improving service innovation rates. From the perspective of co-creation of value developed by Payne et Al (2006): "supplier's role is, therefore, one of providing experiential interactions and encounters which customers perceive as helping them utilize their resources" (p87).

Inseparability entails that consumption should not be considered as the transaction resulting in the acquisition of a good against money, but as the implementation by clients of a set of actions, some of them routinized, anchored in a physical (or virtual) space, and which consists in achieving the delivery of expected value. In such a perspective, value delivered is co-created (Payne et Al, 2006). From company's point of view, designing new processes should start with an in depth understanding of the way customers are creating value out of the processes and experiences proposed. Thus, research tools aiming at testing customer's experiences rather than cognitive choices are due to guide the production of service innovation.

c. Process Based Service Encounter

Even if deeds, acts and performances remain intangible, they are delivered through processes usually guided by two kinds of means: Blueprinting and Dramaturgical approaches. Blueprinting methods (Shostack, 1984) consist in depicting the sequence of stages by which the service is delivered. On such a graph, every stage represents a specific action that either customer or staff has to perform. The process is described in a way which separates the stages which will be visible by customers from the stages which will remain invisible.

Dramaturgical approaches refer to the fact that during service encounter, both

staff and clients are playing a role. Sociological literature underlined that roles are assumed as result of the society and culture of which the person belong. Individual are typically playing a huge diversity of roles according to the situations they are involved in. The service encounter is typically one of those circumstances where people are playing a specific script that is determined by their respective role expectations. For example, an air stewardess plays a script which is usually standardised and which includes specific behaviours, speech and actions. One of the innovation designed by low costs airlines companies was to transform this role in a way that enables lower interactions.

In those perspectives, service innovation may consist in a significant change (which doesn't result from random event) either in the process of in the role play performed by both customers and staff. Innovation in the process may encompass changes in the choice of the stages, in their order or even in the duration of the overall process. From dramaturgical point of view, innovation may consist in a transformation of the roles played by both staff and clients. From the point of view of innovation management, being able to master those two dimensions necessitates having specific tools and methods able to structure and guide coherent processes.

d. Investment Cycle in Innovation

Authors in the field of User Innovation admit that the investment cycle is made of two parts (Baldwin et Al, 2006). First, as the user innovators revealed the interest and relevance of a specific innovation, they attract the first manufacturer eager to enter the market. Those are likely to use flexible, high variable, low capital costs production technologies which enable to produce prototypes production at lower risks. Second, when the emerging segment revealed to have broader potential, higher volumes make possible higher investments. Based on better knowledge about market preferences, it is possible to reduce variable costs and by so to decrease the prices, this contributing in raising the volumes.

Two arguments lead to the assumption that such cycle is different in services. First, investment cycle, specifically in the second stage is based on the fact that the investments done may be protected by patents and trademarks. As mentioned previously, process based innovation is easy to imitate by competitors and nearly impossible to protect as such. Barras (1990) demonstrated that investment cycle may be reverted in services. During the first stages, companies are investing in assets in the purpose of improving the efficiency of existing processes. Consequently, fixed costs are due to increase first. Then, it is likely that users will design new offerings based on the technologies adopted. In such a case, it may be considered that innovation doesn't result from user innovation but from initial investments in productive technologies.

In this sense, service companies are protecting their own business by their capacity to invest in productivity more than by their capacity to innovate. This gives to innovation a completely different meaning. Innovation will be considered as a cost, as it is likely to increase variable expenses, rather than as an investment generating long term rents. Even though innovation occurs in

service companies, it won't be considered as source of future profitability but, at the contrary, as source of increase of variables costs. Innovation dynamic is likely to be transformed. When users innovators are likely to create their own firms (Von Hippel, 1988, Shah, 2000), the service user innovators will look for gaining new positions into existing structures (Alter, 1995).

e. As for conclusion about service specificities for innovation

Due the broad diversity of activities, specificities of service are still under debates. However, some of their characteristics are common to multiple sectors and have major influence on the way innovation has to be managed. Making the service tangible in the purpose of testing the concepts, being able to create situations of new service encounter, designing new processes and role play, using the internal situations to source among the staff people willing to produce the new service, necessitates specific methods and approaches that has to be integrated into the LUT for making it efficient in service environments. Some of those tools were already used in the few papers focused on the application of LUT to services.

Shifting innovation to service users via specific tools.

Von Hippel and Katz (2002) started first to suggest that innovation may be transferred to users in the purpose of reducing development costs as well as providing to user the possibility to develop custom products, fitted to their own experience. In a sense, this approach looked similar to the one of open source development projects where software codes, being made accessible to all, enables the design of customised applications. This perspective seems to be particularly promising when it is considered that in services, the value creation processes involve customers as a co-creator of the value (Lusch et Al., 2006, Payne et Al., 2008).

Moving in this direction for services requires that specific tools may be made available to Users, so that they may be in the position to transform, modify, add new features in the purpose of developing offerings. They may be organised around the two dimensions of LUT: identification of lead users, the development process itself. Tools may be based on direct interactions between development teams and lead users, or they may be mediated by software. We summarised the means in Table 1 bellow. We intend now to display every tool mentioned in the table.

a. Identification of Lead Users based on direct networking.

As mentioned by Von Hippel (1986), it is likely that experts in a domain may know people more experts than themselves in a specific field. Thus, it is possible to source the Lead Users by asking to people already involved in a domain to source profiles which corresponds to the one expected: 1) they are motivated to innovate by expecting returns or benefits of their innovation for themselves, 2) they are at the leading edge of important trends in the market and by so are experiencing needs that will be later experienced by the bulk of the market place. Multiple outlets for delivering processes such as in hotel or restaurant chains, offers renewed opportunities to source LU among service

networks. In this case, LU may be chosen among staff as well as from external resources.

Table n°1: Shifting innovation to service users via specific tools

	Lead Users Identification	Contribution of Lead Users to development
Achieved by direct interaction	a) Identification based on networking of expert in different fields.	c) Concept description tools: Process description of existing practices of Lead Users Dramaturgical play to materialise processes so that they may be tested. Servicescape design
Achieved by using softwares	b) Surveys aiming at the identification of Lead Users among existing Consumers and Staff Social networks using software and communities in the purpose of being able to identify experts in specific fields.	d) Creation of a design space: Automatised Blue Printing Tools On line interaction between consumers and staff Simulators of servicescape (Second Life, ...)

b. Surveys and social networks aiming at identification among customers.

Survey achieved by Von Hippel on an electronic banking offering revealed that service customers may be identified as LU. Given the direct involvement of clients as co producers of the value delivered (Lusch et Al., 2006), it is likely that a significant proportion of them may correspond to LU criteria defined above. Electronic surveys aiming at tracking divergent or innovative behaviours during interaction processes, could lead to source LU among existing customers.

The tremendous developments of computerised social networks and communities may lead to similar results. Such networks open new opportunities for sourcing and recruiting people with specific competences.

c. Contribution of LU through direct involvement

Due to intangibility and inseparability, the way LU may contribute to the design of new service features will be greatly impacted by the tools which may

be made available. Three main tools may be designed in the purpose of making processes and their consequences more tangible and by so more explicit and transferable to other contexts.

First, concept description tools may be used to make service more explicit. Concepts are frequently used by marketing departments in order to materialise ideas produced during brainstorming sessions and test them to potential clients. Concepts are usually a description of the offer describing by who, when, why and how the offering will be used by providing elemental descriptive forms that may include descriptions of attributes and environment, verbal metaphors, and physical prototypes. When concepts are easy to make when the attributes of the product are tangible, description of intangible offerings may be more difficult. By so, it is suggested that concepts may be formalised into grids containing following elements:

- Description by the use of blue printing methods (Shostack, 1984) of the stages of the processes by which services will be delivered. The first tool is a formalisation of the delivering process, describing each stage of the delivery, for each of them the contribution of both customers and front office staff as well as the support of the back office. Having achieved this, company may be able to discuss interest of potential innovation both from value delivered to customers and from the servuction perspective (Eiglier and Langeard, 1987). This could lead to bring comparisons with other similar processes and to highlight the value added stages.
- Description of the infrastructures which will support the delivery of the process as it is known that servicescape have a strong influence on service customer's perception (Reimer and Kuehn, 2005).
- Description of customer role in the process, as well as role of other customers when this contribution may be important. Dramaturgical play may be organised in order to materialise customers and employee's role during interaction sequences. Having such scripts materialised may help to understand the relevance or efficiency of exchanges during a specific stage (Grove et Al, 1992). This tool consists in formalisation of scripts which may be played by actors simulating consumers and staff members. Users may just attend or participate to the role-play and give a return on perception associated to the event.

Those three tools are due to be implemented during meetings gathering the service development teams and selected Leads Users. They will be used in order to materialise and make explicit ideas developed by the users during conversations. They will be used later as well, when the issue will be to test the innovative ideas to the bulk of potential clients.

c. Creation of design space.

Creation of design space refers to the possibility of providing an environment which enables the User to design, modify and adapt services according to their own expectations. The development of simulators or even systems using virtual worlds demonstrated the capacity of technologies to recreate reality to the point that individual may learn and acquire experience at low costs.

The design space is made of a virtual space where User have tools for design servicescapes (infrastructure, music, lights, ...), processes, service encounters, interactions with staff or other customers. According to their own expertise, they may choose to design one or many of the components, or, during later stages, experience and assess the concept already developed. This virtual space should provide tools such as concept description tools which will help the users to structure the offerings in all their dimensions. It will provide tools for designing well structured processes and to describe precisely the expected experience in all their dimensions. Finally, tools for designing servicescapes and infrastructures may be useful for specific service activities. Combining virtual space possibilities and Lead Users knowledge and expertise could result into creation which may be at the leading edge of specific service sectors.

Agenda for further research

Combining Lead User theory and tools able to design services could lead to more attractive results and shorter development. By creating design space, virtual places where users may materialise intangible offerings according to their own experience and expertise should provide tremendous results. This new field may lead to further research developments.

From LUT perspective, applying more systematically the approach to services requires further developments. First, as services are involving directly customers and staff members in servuction process, it is likely that some parts of the Lead Users may be sourced among them. Their identification is one of the issue that should be investigated by further research. For example the validity of the “Leading Edge Status” construct developed by Morrison et Al. (2004) should be tested among consumers and staff of service companies in the purpose of being able to create a community of potential contributors to innovation.

Second, as it is suggested that services require using specific tools, we suggest that their development and efficiency may be achieved through action research plan. In this approach, researchers, in cooperation with companies may develop specific tools which correspond to needs of local developments and then apply them to other services sectors in order to test their relevance. It may be suggested that some of the tools, specifically those which are computer based, could be developed in laboratory experiments and then, in a second stage, applied to specific developments within companies.

Third, as very few examples are provided of the success of Lead Users methods applied to services, it is likely that further test could lead to more detailed and validated results. Given the diversity of service sectors – various degree of intangibility, b to b or b to c, different environments – potential for application appeared to be rich. The methodologies used for the 3M company,

aiming at comparing ideas produced by LUT against ideas produced according usual methods, may be adopted.

Fourth, as the LUT requires a structured development process, and by so requires higher levels of investment, it is suggested that research may analyse the potential return of ideas resulting from this process vs emerging ideas. As the protection of ideas is usually low in services, further investigations should be leaded for being able to analyse protection strategies that may be used for replacing usual patents.

Conclusion

The LUT applied to service innovation process offers new opportunities to enrich tools and methods used for designing new services. As they are likely to have a rich potential, the identification, design and test of specific means which could contribute to increase efficiency is a promising research area. Given the weight and economic wealth of service sectors in developed economies, it is likely that prospective methods for innovation, leading to well positioned offerings, could contribute to companies' development.

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