Service Innovation in Online Recruiting

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Abstract

Since most existing online recruiting services are simple job boards serving to replace traditional newspaper ads, we study how to innovate such services. Specifically, we apply the lead user method as a driver of breakthrough innovations. We compare new service ideas emerging from interviews with 60 registered applicants with the ideas derived from two lead user studies. From both types of data we learn that applicants desire the integration of community and social network features for specified user segments. Interestingly, while most of the interviewed applicants suggested social network features they already knew from other online platforms, lead users came up with more innovative service solutions. Our findings indicate that online career services should not contain only useful information regarding careers and continuing education, but can also encourage friendships and social activities, as well provide access to virtual experiences that may enhance users' self esteem.

Keywords: online recruiting, service innovation, lead user study

1. Introduction

One of the major lessons we have learned so far in regard to customer input is that relying on typical customers and standard market research methods (such as focus groups or interviews) are not suitable approaches to creating breakthrough innovations. While most of today's innovations are incremental advances of existing products and services, the Lead User (LU) method has been heralded of generating breakthrough innovations [1, 2]. The LU method is built around the viewpoint that the most innovative new products and service ideas are held by just a few highly innovative "*lead users.*" If these lead users are drawn into a process of joint development with the management team of an organization, they have been shown to contribute more to idea generation and innovation than through internal organizational idea generation methods or external market research methods.

In specific, innovations by lead users have been found to be crucial for the long-term performance of firms because lead users are confronted by needs that are largely latent among the more general group of potential users; a lead user is able to identify and explain these needs months or years before the rest of the potential users [1, 3]. Also, lead users benefit from their own innovations, therefore they are motivated to think in innovative, new ways along with their suppliers.

Moreover, users who have real-world experience with an unsatisfied need have been found to provide the most accurate data in the form of need-specification and ideas to meet their needs. Despite the fact that breakthrough innovations through lead user studies have been regularly cited in the innovation literature for the past 10 years [1, 5, 6], only a small number of firms have integrated lead users into their product or service development processes. This is especially salient in the context of online service firms (offering, for instance, online recruiting services). Indeed, most LU studies have been conducted in manufacturing with the purpose of enhancing new product development. Our research aims to understand how to innovate online recruiting services. In particular, we explore which services an online career platform would need to offer to trigger its re-use. The overall question we address is: *Which service innovations do online recruiting platforms require in order to achieve long-term participation of its users?*

This paper is organized as follows: First, we review the literature on user involvement in service innovations and summarize the relevant aspects of the online recruiting literature. We specifically focus on the LU method as a primary driver of breakthrough innovations. Then, we describe the empirical part of this paper. Finally, we present the findings with the aim of sparking future research on innovating online recruiting.

2. User Involvement

The idea of involving users in product and service development stems from the belief that involving users provides multiple benefits. These include users' stronger intention to actually (re)use services, and increased user accountability for the system's design, resulting in users' higher satisfaction, commitment and identification with the service [7, 8]. In particular, in the area of IT service innovation, higher levels of IT services' success have been associated with the active involvement of members of the user community [9]. Moreover, development time can be reduced if continuous acceptance tests are carried out during service development [10].

Also, the service management literature emphasizes that a deeper understanding of customers' needs is vital for achieving high service quality [11, 12, 13]. However, the exact timing of when and how extensive user involvement needs to be organized into the (re-)design process of services is unknown [14]. While it has been found that involving users can lead to innovative service ideas, sometimes the users' ideas are too difficult to obtain or too costly to realize. A common definition of user involvement is still lacking as well. It has been seen as synonymous with *contacting with users* [15] *participation of users* [16] *user-centered design* [17] and *user engagement* [8].

Research into different sources of user involvement and innovation has expanded to include one particularly promising concept, focusing on the concept of "lead users." Lead users share the following characteristics: They (1) anticipate the future needs of a specific market and do so significantly earlier than the majority of other users, and they (2) profit strongly from the suggested innovations, in the sense that these innovations help solve their problems or enable new opportunities [18]. By sensing service innovations and future opportunities well before ordinary customers, lead users have a strong desire for innovations that will solve their problems in ways that existing products and/or services cannot. Hence, lead users have been found to be an extremely valuable cluster of customers and/or potential customers [2, 3, 4].

Lagrosen [19] emphasizes that the mere act of involving customers in the development of new services is not enough. In the same vein, von Hippel [1] coined the term "sticky information" in order to describe the transfer of the "right" information between lead user and producer. Von Hippel equated the stickiness of information with the cost associated with transferring such information; if information stickiness is low, the retrieving of important information for new service development is a minor issue. However, von Hippel's research shows that information stickiness is often high, especially in the field of information technology. The LU method addresses the issue of sticky information and seems to render the traditional means of customer involvement (such as the focus group or interview) less functional for breakthrough innovation. Thus the tacit nature of information--- a common reason for information stickiness---can be reduced by the LU method easier than in traditional user involvement procedures [20].

3. Online Recruiting

The current online recruiting literature points towards next generation online recruiting portals with web 2.0 applications. In reality, most existing online recruiting portals are simple job listing boards serving to replace traditional newspaper ads. In most if not all industrialized countries, company recruiters are increasingly using the internet to advertise job postings and search applicant pools in order to attract a wider set of prospective candidates than traditional recruiting processes would allow [21].

Although research on online recruiting is still scant [22, 23], the increasing number of recent academic publications show that there is an increase in the attention paid to these services [24, 25, 26, 27]. So far, most studies have focused on applicant reactions [28, 29, 30]. Less research attention has been paid on company employers' or recruiters' views on the effectiveness of different online recruiting services [31]. Although online recruiting services (e.g., www.monster.com) and professional networks (e.g., www.linkedIn.com, www.xing.com) have improved access to talent, large numbers of these services suffer from little user participation, outdated profiles and lurking. Consequently, many fail [29, 31]. It is thus quite difficult to design technical features of online recruiting services and seed their social practices in a way that generates ongoing contributions from a larger fraction of its perhaps initially instrumentally oriented users [32, 33].

In conclusion, online recruiting services face many challenges such as keeping registered applicants profiles up-to-date or delivering semantically accurate search results when offering applicant-pool search functions. Also, the many current online recruiting services hardly differentiate themselves from each other. Hence, we set out to gather empirical data on innovating online recruiting service offerings, in an effort to achieve longer-term commitment of the various customer groups.

4. Method

The firm participating in this study is an Austrian start-up offering online recruiting services for college and university graduates from different fields such as business, law and engineering. For this paper and for the starting point of this research, we studied specifically the engineers' career portal because this portal is the most established one on the market. In order to compare the extent to which the ideas collected in traditional interviews with applicants were –according to von Hippel's theory– less innovative than the ideas derived through the LU method, we collected two sets of qualitative data. We will now describe how we conducted first the interviews with the applicants, and then how we proceeded during the data collection and analysis of the LU project.

Applicant Interviews

We randomly selected one registered user from each engineering college in Austria. There is a total of 60 so-called Higher Technical Colleges (HTLs) in Austria, and we sampled and interviewed only the users from each college with a minimum of 3 years of work experience. He or she was telephone interviewed. The interviews with the applicants aimed to identify service ideas in order to increase the platform's long-term usage. All interviews were tape-recorded. While tracking, observing, and asking questions, we kept a record of field notes that enhanced the quality of later in-depth analyses. An aim of these interviews was to identify a subset of users in the sample with both of the two lead user characteristics mentioned (i.e., being ahead on the trends identified and expecting high benefit from innovations).

Lead User Group Interviews

In line with the prior literature, we followed the four steps of the LU method, described in detail in von Hippel [3] and Urban and von Hippel [18]. Table 1 shows how each of the four steps were carried out in this particular study.

In the 1st step, the broad research goal, the scope (focus on the engineering recruiting portal), financials and other resource requirements of the LU project were planned. Lead User projects require the dedication of an interdisciplinary internal organization team, usually consisting of people from marketing, sales, R&D, and production. Hence, in order to ensure the commitment to customer involvement in new services design, we included employees from different functional lead roles right from the beginning.

The 2nd step involved analyzing key trends and services discovered by studying more than 200 online recruiting websites, screening the relevant academic literature on online recruiting and following market trends about online recruiting services in mainly German and American e-business, management and human resource magazines (such as Business 2.0; MIT Sloan Management Review; Personal Magazin; Personalwirtschaft; Personal Manager etc.). Identification of needs and trends was also supported by weekly viewings of various (mostly Silicon-Valley originating) podcast series on different e-services start-ups. Also, external experts with expertise in online recruiting were identified and interviewed. Reports from visits to 12 career fairs and interviews with 73 recruiters, done with the aim of exploring service quality criteria, also included analysis of limitations in online recruiting services and possible ways to enhance current services [34]. Once we had identified the major trends and needs, we prioritized them based on their potential service innovation. One striking need all online recruiting services faced was finding a solution for keeping their registered applicant profiles up-to-date and for enhancing user return rates. Typically, as soon as registered applicants have found a new job, they have hardly a reason to re-visit a career site in the near future. Accordingly, our one central research question is: W*hich service innovations do* online *recruitment platforms require in order to achieve the long-term participation of its users?*

In the 3rd step, we identified the lead users. We aimed to include different user groups into the lead user study. The typical users of online recruiting services are registered applicants, recruiters, and media (mostly personnel marketing) personnel. We aimed to get users from all three categories to participate. However, due to time restraints of several participants and the time needed to identify and recruit lead users, we split the workshop in two parts. The proxy used for identifying lead users included evaluating to what extent the users appeared ahead of others on our identified trends. Following prior research [1, 35], we operationalized "ahead on identified trends" into the following two criteria: (1) the degree to which the interviewees agreed that the trends that had been previously identified were in fact needed and important from their points of view and (2) the ways in which the interviewees articulated technically interesting innovations regarding these trends. The proxy used for "user innovation benefit expectations" was that users expressed a benefit for the suggested services. Thus, we were looking for critical users that were unsatisfied with their current or former use of online recruiting services and were able to articulate these negative experiences.

Workshop 1: In the first workshop we brought together the Chief Technical Engineer, the Marketing & Operations Manager, the lead researcher of this study, and three recruiters and two personnel marketers. We made sure to include different types of recruiters including one company recruiter, one recruiter from a personnel agency and one personnel head hunter. One personnel marketer works at a large corporation in need of marketing their organizations to engineers while the other works at a large educational institution in need of engineering students. The process for searching out these lead users was based on a networking approach that the portal-offering firm pursued from its outset.

Workshop 2: Although about a third of the sample of 60 registered applicants interviewed by telephone met our pre-defined selection criteria for becoming lead users, only the three most highly innovative applicants from that pool of 20 were recruited to participate in the lead user workshop. Those three users agreed that long-term usage of recruiting portals is a problem and that they have had negative experiences with online recruiting services. Also, they were highly interested in the research project and in finding a solution that could benefit them as well. We invited those three users to participate in the lead user workshop. Other workshop participants included two system designers and two programmers of the platform, and the same company team that initiated the lead user workshop.

In the 4th and final step, we held the two lead user workshops. All participants introduced themselves and the company presented its organizational structure; its current products and services; financial growth since its business start; market trends and expected future challenges. In both workshops, the key question was presented. Following discussions and a first idea collection phase on flipcharts, the participants quickly identified the need for different service innovations, depending on the three key customer groups of online recruiting services: (1) applicants, (2) recruiters and (3) personnel marketers. Throughout the workshop, field notes were taken and then typed right after the workshop. Notes were only taken during group discussions of new service ideas and/or when summarizing

Table 1 The Lead User Method as Applied in this Study

STEP 1 Plan Project Scope	STEP 2 Identify Online RecruitingTrends	STEP 3 Identify Lead Users	STEP 4 Lead User Workshop
▪ Define broad research scope: Innovating online recruiting services ▪ Build an interdisciplinary internal project team ▪ Plan finance and other resource requirements	▪ Review academic and business literature ▪ Listen to podcasts series on e-services start-ups ▪ Competitors' trends analysis, review > 200 online recruiting sites ▪ Internal reports from visits at 12 career fairs with interview data from 73 recruiters ▪ Interviews on services for long-term usage with 60 registered applicants ▪ Visit conferences ▪ Prioritize major needs/ trends: Which service innovations do online recruitment platforms require in order to achieve long-term participation of its users?	▪ Aim for a total of 15 participants ▪ 5 lead users (3 recruiters and 2 personnel marketers) through network search ▪ 3 lead users (applicants) from telephone interviews ▪ 7 members from the company team: – 1 Chief Technical Engineer – 1 Marketing & Operations Manager – 1 Researcher – 2 System Designers – 2 Programmers	▪ Workshop 1: – 3 recruiters – 2 personnel marketers – 1 Chief Technical Engineer – 1 Marketing & Operations Manager – 1 Researcher ▪ Workshop 2: – 3 Applicants – 2 System designers – 2 Programmers – 1 Chief Technical Engineer – 1 Marketing & Operations Manager – 1 Researcher ▪ Triangulation, Comparison, Evaluation of Service Ideas

5. Data Analyses

The involved researcher first listened to all audio tapes. Then, she compiled narratives of the interviews and compared them with the content of the field notes made during the interviews. Themes in the data were identified and reduced into broad categories [35, 36]. The preliminary categories were posted on the company intranet and employees were invited to make suggestions, improve the wording of the labels and cluster related service ideas. Importantly, the service innovation ideas for enhancing long-term usage were presented and discussed with a group of six registered applicants who worked on or had already finished (at the time of the service category validation) their Bachelor or Master theses which were sponsored by the online recruiting firm. Similarly, in the lead user workshop we compared the tape-recorded memos, field notes, presentation slides and notes and we sorted this data into a few themes. Also, this set of service ideas was posted on the intranet in an effort to derive further input regarding the collected ideas.

Following this, participants of the lead user workshop systematically compared the service ideas collected from both sets of data [37]. We noted patterns and overlaps of the identified service ideas, but also significant differences of service ideas collected through the traditional interviews compared to ideas from the lead users. Not surprisingly, the innovation literature shows that innovativeness is multidimensional and difficult to operationalize. However, the recent literature treats the degree of innovativeness as comprised of market, technological and organizational dimensions [38, 39, 40]. We operationalized innovativeness according to these dimensions. After both workshops, the core ideas were compiled and emailed to the workshop participants. They were asked to individually evaluate the service ideas in regard to the degree of innovativeness. For practical reasons, lead users only rated the market dimension, whereas the involved participants of the company team (i.e., the Chief Technical Engineer, Marketing & Operations Manager, Researcher, 2 System Designers, and 2 Programmers) rated all three dimensions.

Specifically, the dimensions were operationalized as follows: (1) *Market Dimension*: how original and novel is the service idea compared to existing services in terms of (a) new benefits for a user, (b) higher benefits for a user, (c) potential for the firm's competitive advantage. (2) *Technological Dimension*: how quickly can the service idea be realized or technical feasibility: (a) newness of the technology needed to realize the service idea, (b) complexity to realize the service idea, (c) uncertainty about development time and (3) *Organizational Dimension*: how well does the service innovation fit

into existing firm structure: (a) required change in competencies, (b) required change in strategy. The users rated the service ideas either as 1 (high) or 0 (low). A similar procedure was applied in a recent LU study by Franke et al. [2] and we found that it matches the LU method's aim of identifying only the most truly innovative innovations.

6. Results

In the traditional interviews, applicants exclusively suggested service innovations for their personal use. Even when probing long-term sustainability of online recruiting services in general, in the traditional interviews, applicants made only references to themselves; they did not identify service innovations for other potential customer groups. Table 2 contains a summary of the main ideas on innovative online recruiting services. For instance, in regard to communication tools, we note that applicants were basically suggesting services for communication with other registered applicants via social networks as commonly found in other platforms. While applicants suggested including text-based information on employers with some sort of branch categorization, phone, address and email, they did not identify new communication services --such as *Blogs or Live Chat*-- to communicate online with recruiters or educational institutes. Lead user suggested that by means of an applicant blog interested candidates could initiate the communication with registered recruiters of the companies they target and exchange information with other registered applicants on experiences gained in different work settings. Such applicant blogs may serve as sort of discussion boards, enabling authentic and social support from peers. Also, it could turn the entire application 360 degrees: i.e., if all applicants were to put their own blogs out and recruiters to "apply" to their "ads." If recruiters and marketers could link from their company logo to their blog, they could inform potential applicants on more firm-specific data in a rather informal way without needing to meet each applicant face-to-face. Note that most recruiters or marketers publish their organization's logo or banners on online recruiting sites and/or present their organization profile online.

This new type of blogging practice has implications also for web 2.0 employer branding initiatives as it can build up large-scale, weak-tie relationships with potential applicants. Many blogs nowadays have developed wide readerships of people who regularly re-visit the blogs of specific individuals or companies. Subscribing to a company blog via RSS newsfeed has become a much-used feature and may well work for recruiting services as well. Also, personnel marketers from educational institutes could use such blogs to keep a real-time overview of their services, announce guest speakers, events, upload pictures from graduation ceremonies, etc. Further, by using blogs to communicate with the general public, the problem of space (line) limitations---which are usually much more restricted in newspaper ads---would be solved. Besides this, newspapers appear in cycles and depend on people reading them at a certain point of time. With a company's or educational institution's blogs, recruiters and marketers could chronologically order their blog entries, invite applicants to comment or join different discussions, and more selective application might become a reality which could reduce significant HRM-administrative costs.

Lead users further suggested enhancing the communication by including an *Avatar* in the form of a Digital Application Coach instead of FAQ or customer service links. This was found to create more personal customer service than traditional text information.

Both the lead users and the users from traditional interviews came up with many ideas on how to integrate social network and community features into online recruiting services. The regular users suggested career-related and private-use services to connect with each other, share music or videos, play games, and communicate online with other registered engineers. The users predominantly emphasized interest in communicating online with offline-known fellow acquaintances, known either from their previous schools or via extended networks (friends of friends). Interestingly, the interviewed engineers didn't seem to be keen on developing or maintaining a strong network with fully unknown engineers. Fifty-six of the sixty interviewed engineers confirmed that they would use an online career service for the long run if it was specifically targeted at engineers' needs. However, most of the interviewed users are not inclined to sign up at a general online job board that attracts many different job searchers. General jobs boards are seen as exchange-based career tools for finding a job when needed, but among them it is not desirable to connect online in such job boards with unknown users.

While lead users recommended to including *Newsfeeds and Statistics* for transparent updates for the different customer groups, users in the traditional interviews came up with a *Newsletter* with the latest jobs matching their skills; new information on hiring companies; info on continuing education; and other career related topics. Most online recruiting services offer such newsletters or job-alerts functions to keep applicants informed of new jobs and other career-related news. However, the new services that were identified by the lead users added additional value, including that a transparent newsfeed may enhance the trust of the customer groups to the platform, and consequently improve long-term use. For instance, recruiters and personnel markets should have the possibility for automatic updates on the number of unique visitors and page impressions in different time frames (such as per week/month etc). Also, newsfeeds on new applicants that registered and would fit an open position in a ranking order would be valuable. Further, services such as regular updates on which applicant clicked on a specific job ad or company logo may cause recruiters interest. Such features

would enable recruiters and marketers transparency into their advertising investment and also estimate latent demand. Another trust-related service would be to let recruiters, marketers and applicants who used different career services rate those services. There is certainly the danger here that competitors would be inclined to write negative comments on purpose. People who rate such services, therefore, may need to include some personal data, or careful monitoring of the posted comments would need to be undertaken. Further, for applicants, newsfeed services may cause them to keep their profile up-to- date and return to the site as they get a better overview of who is interested in their profile. This may enhance users' curiosity to re-visit the site and possibly also their self-esteem if many people viewed their profile or left messages. Also, some notification of jobs where only few applicants applied may save the applicants time so as to not apply to jobs where hundreds of other candidates already applied. Also, applicants should get an automatic individual newsfeed on jobs matching their skills instead of receiving traditional mass newsletter. Further, if applicants don't have the skills available yet to apply for a specific job, they should be offered educational links to institutes where they can best acquire the missing knowledge/degrees. Some other innovative services for applicants include ranking employers who pay most for graduates from different schools, and a search possibility to find friends or FoF (friends of friends) who work at same organization or area.

One new service relates to visualizing applicant data by tag clouds. Such "identity clouds" can be used to indicate things in different pixel sizes, depending on how closely related and characteristic certain terms are associated with a specific person. Creating such a tag cloud for an applicant could include visualizing attended schools, skills, and work experiences. If an applicant is an expert user of a certain computer program, for instance, this would appear in larger font while computer programs he has only basic knowledge about would appear in small font. Also, organizations where an applicant has collected longer work-experience would appear larger than work settings where the applicant has done only an internship.

The service for recruiters and marketers *Visualizing Applicants* may also include a map showing black spots (no suitable applicants) and green spots (suitable applicants), regional distribution in line with skills: For example, where do more chemical engineers live? Similarly, the services for applicants *Visualizing Jobs* may include a map showing black spots (no fit with my profile) and green spots (fit with my profile) or visual info showing where--- region and company---one may already have friends working.

Another interesting LU suggestion (fostering potentially long-term participation and up-to-date profiles) relates to the *Integration of external eHRM systems in which job ads and* profiles are automatically updated. While the very large recruiting services such as Monster already have created data transfer interfaces (e.g. HR-XML) with large corporations, this feature is not applied much yet. In order to give each other the possibility to transfer sensitive employee data via shared interfaces, it requires technological savvy and trust from both cooperation partners. However if recruiting services can get more of such cooperation agreements for convenient data transfer, it is likely to enhance long-term cooperation. A major advantage of effectively working data transfers and reliable updates relates to time and cost savings. Further, applicants may re-use the services of a specific online recruiting site if they have the opportunity to create a neutral and free application webpage for use outside the online recruiting service and general future use.

Recruiters and marketers are also likely to benefit from the LU generated *Fan Club* service idea. This holds that applicants who have an interest in a specific organization simply add companies of interest to their search status. However, for applicants this service should rather be labelled *Insider* or *VIP Club.* The careful consideration of wording (Insider instead of Fan) is suggested to enhance applicants' feelings of special as "insiders," getting more and better information about an organization since they directly communicate with recruiters of desired companies. Certainly, it is beneficial for companies to see which applicants have real and current interest in the organization. Direct interaction with a selected Fan Club audience should be enabled by different means of communications, starting with text messaging or discussion boards.

Research has shown that recruiting from standard applicant pools can be highly frustrating for recruiters. This is because of the small and slow response rate of applicants. Besides this, applicants may have already found a job elsewhere and are still registered as job searching though in fact not available anymore. While recruiters are already looking forward to invite candidates from applicant pools for interviews, they often find themselves with no response from the registered candidates [34]. Therefore such Fan Club features may flag who among their applicants has a current interest in a specific organization, enabling relationship building with candidates and consequently employer branding.

Other user-generated new ideas include a differentiation between applicants' personal and private page. This idea came from lead users as well as regular users. Importantly, recruiting services are challenged to create private (for friends) and public (for HR recruiters) spaces of the users' applicant profile so that trust is built, in order to ward off the fear that personalized resume data will be abused. As one applicant described: "How can you make sure that my boss will not find my profile in the database?" and "Sure, I want my profile for friends to look different than my applicant profile."

Further, implementing more selection criteria to enhance users' *Privacy, Security* and *Control* was strongly associated with long-term use of online recruiting portals.

Table 2: Innovations from the LU method compared to new-service ideas obtained with traditional interviews

LEAD USER INNOVATION METHOD	TRADITIONAL INTERVIEWS
Applicant Blog – Directly communicate with recruiters – Discussion Board: social exchange of positive/negative job experiences **Recruiters & Personnel Marketers Blog** – Directly communicate with target group	**Applicant Communication** – Internal communication with friends or FoF, exchange experiences **Social Network/Community features** – Inviting, blogging, tagging services – Keep in touch with friends for career purposes – Connecting based on branches, city groups, school groups, sports groups – Recommending friends
Career Letter Target specific groups of users **Newsfeed for Transparency/ Statistics** – # Recruiters and detailed info who has visited applicant profile – # and detailed information on new jobs matching applicant profile – Show educational links if skills are missing – Notification on jobs where only few applicants applied or only view applicants clicked the job ad – Matching which employer pays most for graduates from different schools – Friends or FoF who work at same company or area. – Personnel Marketers Statistics # people registering, applying or buying the marketers services – Recruiters Statistics: Evaluation service of different recruiting sites: other recruiters rank services they used	**Newsletter** – Email new job offers – Events for graduates, alumni – Info on continuing education
Visualizing Jobs & Applicants – Map showing black spots (no fit with my profile) and green spots (fit with my profile) where are the jobs I fit best – Tag cloud: regional distribution in line with skills: where are e.g. more chemical engineers living?	**Career Info Pages** – How to find jobs – How to prepare application documents – Info on trainee programs – Company online presentation
Avatar & Life Chat – Digital Application Coach – Text, audio, video	**Employer Communication** – Employer list with phone, address, email
Integration with e-HRM systems – HR-XML so as to automatically update profiles and job ads **Flexible Application Homepage** – Free page with individual address for independent, outside platform, future use	**Data Transfer** – Download section, share pics, videos, music, e-books
Applicants Insider/VIP Club – Applicants join company groups, feel special to be "insides" and directly communicate with recruiters **Company Fan Club** – Applicants join company groups, better overview of interested applicants, relationship building, employer branding	
Differentiation between personal and private page – Invitation by friends necessary to register, exclusivity, extended privacy settings	**Differentiation between personal and private page** – Contact info, hobbies, events, friends – Private page with career info
Career Cockpit – Search status: who is actively/passively searching a new job – Save selected jobs – Save selected candidates, successful placements, advertising history, subscriptions	
Self esteem/ competency Features – Crowd-sourcing: integrate users to expand skill ontologies, user experts can compare themselves to others – Enable applicants to use score for resume – Check your market value: show users how they score compared to other	**Playful Features** – Online games with other users, rank winners

users, friends
Open ID, APIs
Control/Security

We also noted that services aiming to enhance applicants' *Self esteem/ Competency* might well be received by users. One possible feature would be to include *Crowd-sourcing*: integrate users to expand skill ontologies; user experts can compare themselves to other users and get ranked depending on their performance. Applicants may even use such skill test scores for their online applicant profile. In addition, if applicants can match their resume profile with different job ads, this may cause users to search for jobs where they are the top candidate, consequently strengthening platform bonding.

With the prospective service, *Check your Market Value,* users should be able to compare how well they would fit a specific job description compared to other users, friends, people in a certain region, the whole network etc. This feature also relates to playfulness which has been found very important in re-using online services. Users from the telephone interviews suggested to add games and to rank winners. However typical online games may not fit the strategy of online recruiting portals. The ideas suggested by the lead user in regard to "gaming" which allow applicants to assess their skills, compete against other users for expanding skill ontologies and to motivate users to check their market value are strategically related to career services.

When interpreting Table 3, one needs to be cautious. The degree of innovation along the market dimension has been evaluated by all workshop participants (n=15) while the technological and organizational dimension has been only evaluated by the involved company team (n=7). Evaluators either judged statements as 1 (high) or 0 (low). We did not include other variation in the evaluation in an effort to only select service ideas perceived as highly innovative or not innovative. We summed up the numbers per statement to get an overview of which service ideas score high on our operationalization of innovation. Clearly, service ideas from the lead users score higher than service ideas from the traditional interviews. There is one exception, *Social Network/Community features* which represents a summary term for all ideas suggested by traditional users in regard to such applications. As discussed in earlier sections of this chapter, social network and community features in general have been found as innovative. However, the ideas suggested in the traditional interviews largely revealed service ideas such as inviting, blogging, and tagging which are commonly known from other platforms. Nevertheless, most of the workshop participants already stated during the workshop that any advancement to include such features in online recruiting portals is innovative. However, when reviewing the first part of the table on the lead user ideas, one sees that social network and community features have been split into different innovative services ideas, scoring high on the market dimension. We need to emphasize that high scores on the technological innovation dimension is not necessarily beneficial for organizations wishing to advance their online recruiting services. For instance, high scores on *Uncertainty about development time* make it difficult for the organization to plan advertising efforts until the products and services are readily available. A high score on *Complexity to realize the service idea* can be positive, as it is harder to imitate the new service, but also often requires competencies that may currently not be available in the organization. When looking at the organizational dimension, both a low score on *Required change in competencies* and *Required change in strategy* means the organization does not need to adjust their internal structure. In this case, a lower score seems beneficial as service innovations can be realized without requiring the organization to adjust much of its current strategy or recruit new employees.

6. Conclusions

In this paper we present the findings from employing the lead-user method in an effort to innovate an Austrian online recruiting platform. We collected data from 60 registered applicants, including 15 lead users. In terms of our key substantive question, that of more sustainable use of an established niche portal, we found that users of this portal are more inclined to re-use the same portal if it includes community and social network features for specified user segments, sharing a similar social identity by enabling offline ties. Concerning our application of the LU method, we find that the service ideas emerging from the lead user method appear more innovative than those collected in the traditional interviews. Whereas most of the registered applicants identified social network and community features they already knew from other platforms, lead users came up with innovative service solutions for different user groups such as applicants, recruiters and personnel recruiters. Thus, carefully specifying potential customer groups at the outset of an innovation project can lead to more targeted service offerings. It is likely – as both sets of interview data show -- that social networks and a sense of community (i.e., shared identity) matters for long-term sustainability of online recruiting services, and thus that the general users will welcome "a sense of community" to be built into online career portals [41]. Certainly, in the future, more fundamental research work in this realm would need to assess more independently, objectively and precisely the degree of innovativeness of the user-driven ideas, based on various data-collection methods, engaging

various online recruiting platforms [42, 43]. Also, the needs of the interviewed lead users are not necessarily the same as the needs of the users who will make up the major share of tomorrow's online recruiting market, more research is needed to examine the extent to which the service ideas identified by the lead users in our study will be valued by the more typical future users in their target markets.

Table 3: Categorizations of the new- online recruiting service ideas (LU method versus traditional interviews)

Online Recruiting Innovation	**Market Dimension (n=15)**			**Technological Dimension (n=7)**			**Organizational Dimension (n=7)**	
	New benefits for user	Higher benefits for user	Potential for the firm's competitive advantage	Newness of the technology needed to realize the service idea	Complexity to realize the service idea	Uncertainty about development time and	Required change in competencies	Required change in strategy
Lead User Method								
Blog	6	7	7	0	0	0	0	2
Newsfeed for Transparency/ Statistics	15	15	15	4	6	5	3	3
Visualizing Applicants/Jobs	12	11	9	3	3	1	3	3
Live Chat	8	8	7	2	2	0	0	2
Avatar	9	12	8	4	4	5	2	2
Data integration with eHRM systems	12	13	13	6	6	5	3	4
Flexible Application Homepage	9	8	5	0	0	0	0	0
Fan Club/Insider/VIP Club	11	12	10	0	0	0	0	0
Career Letter	9	8	8	0	0	0	0	0
Differentiation: Personal/Private page	7	8	7	0	2	0	0	0
Career Cockpit	12	13	9	3	2	2	0	0
Self esteem/Competency features	15	14	13	4	5	4	2	5
Open ID, APIs	9	10	8	0	0	0	0	2
Control/Security	6	11	7	3	4	2	0	2
Traditional Interviews								
Applicant Communication	7	6	7	2	1	0	0	0
Social Network/Community features	8	9	6	4	3	3	2	4
Employer communication	0	0	0	0	0	0	0	0
Data transfer/Download	6	7	3	1	1	1	0	0
Career info pages	2	2	0	0	0	0	0	0
Newsletter	0	3	0	0	0	0	0	0
Differentiation: Personal/Private page	7	8	7	0	2	0	0	0
Playfulness/Online games	6	4	2	2	1	0	0	2

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