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# LEAN ON DIFFUSION THEORY TO MAKE IDEAS-COMMUNITIES FLY – THE CASE OF DATEV

*Research-in-Progress*

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## Abstract

*Internal ideas communities are becoming important instruments for companies, as they are virtual places where employees solve organizational issues, develop new products, services, and business opportunities. The engagement in such communities is voluntary and users are asked to invest their expertise, creativity, and their time to develop ideas. This makes it important to continuously acquire new members and to motivate the community to generate valuable content. However, recent literature does not provide adequate approaches for implementing ideas communities in a structured way. Thus, we conducted a single-case study analysing the implementation of DATEV's ideas community, which is considered by DATEV as a successfully implemented community. We found that the implementation approach of DATEV has similarities with the diffusion theory by Leonard-Barton. Leonard-Barton's theory consists of three key principles for implementing innovations in organizations: User Involvement, Sponsors and Champions, Mutual Adaptation of Organization and Technology. Based on the analysis of the DATEV approach by applying the theory by Leonard-Barton, we enrich existing literature about community building and management approaches. Furthermore, we present measures for implementing virtual communities using the example of an internal ideas community.*

*Keywords: Ideas Community, Online Community, Diffusion, Implementation Approach.*

## 1 Introduction

During the last few years, a lot of attention has been drawn to ideas communities (IC), a virtual place where different stakeholders develop ideas for new products and services for companies (Leimeister, 2012). ICs provide valuable information about the demands of a company's stakeholders as well as innovative solutions for their currently unfulfilled stakeholders needs (Erickson et al., 2012; Yuqing et al., 2012). Such communities are also a useful instrument for finding new business opportunities (Erickson et al., 2012). Increasingly, companies limit access to their own ICs for their employees in order to discuss and solve organizational issues within their company and to avoid outflow of expertise. This article focuses on such internal ICs, where the membership is closed. Bretschneider (2012) characterizes these communities as follows: (1) idea generation is an important feature, (2) members have access to all created ideas and (3) all members can provide feedback on ideas. Regardless of whether a company will implement internal or external ICs, they are faced with issues regarding the implementation process. As the usage of, and the contribution to ICs is voluntary, employees have to be motivated and convinced to enter and to engage in the community. Even if an IC has a large fellowship, there is mostly a lack of user contribution. This is the point where many ICs

fail. The same holds true for organizational information systems (IS) and especially for knowledge management systems (KMS). Alavi and Leidner (2001) define KMS as “a class of information systems applied to managing organizational knowledge. That is, they are IT-based systems developed to support and enhance the organizational processes of knowledge creation, storage/retrieval, transfer, and application”. Since the members of an IC create and apply organizational knowledge by using IT, one can define ICs as a KMS. Following this reasoning, the usage of implementation models for KMS like the Business Knowledge Management-Approach (BKM) (Bach et al., 2000), PROMOTE (Abecker et al., 2002) or the approach by Gissler and Spallek (2002) seems to be an adequate approach for implementing ICs. However, these models do not guarantee a durable success of KMS, because the usage of KMS is affected by various factors, e.g. social influence (Wang et al., 2013). In contrast to KMS, ICs as well as virtual communities (VC) depend on the development of user commitment and a sense of community (Leimeister and Krcmar, 2005). That is why, procedure models such as the “Community Building & Community Management Cycle” (Leimeister and Krcmar, 2006), the five-stage model called “Online Community Life-Cycle” by Iriberry and Leroy (2009) or the approach by Hallerstedde et al. (2012) try to consider the characteristics of VCs. However, these models are rather general and do not explain how to attract and bind users to a newly developed VC, nor do they describe in detail how to motivate users to contribute. This is crucial, as we know from network-theory that the more people are engaged in a community, the higher the purpose for non-members to join the community (Katz and Shapiro, 1985). Another aspect is that ICs are strictly problem focussed. This means that the provider of an internal IC is looking exclusively for ideas across hierarchies and departments in order to solve organizational issues. Furthermore, members of an IC may invest working time to solve issues for foreign departments or even for competing departments. Members of ICs also change their online behaviour (e.g. from being interested to first-time use, regular-use, or passionate-use) (Preece and Shneiderman, 2009).

To address this research problem this article answer the following question: *How can organizations successfully implement internal ICs?* We propose a case study approach in order to identify how companies successfully implemented ICs. This approach serve as starting point to improve existing implementation models for VCs. We define successfully implemented as a positive evaluation of the IC by the responsible organization. Our research in progress (RIP) paper presents the first analysed case – the “DATEV Innovation Pool” (DIP). DIP is an ideas management platform of DATEV, a German IT service provider. DATEV considers DIP as a successfully implemented community project since the numbers of users and developed ideas are satisfying and still growing. By analysing their implementation approach, the applied measures at DATEV reveal parallels to the diffusion theory by Leonard-Barton (1988b). This theory focusses on the implementation characteristics of innovations and suggests management strategies. Since an innovation is defined as an “idea, practice, or project that is perceived as new by an individual or other unit of adoption” (Rogers, 2003), one can consider an IC as an innovation. This understanding applies in particular for employees of a company, which never had contact to an IC. Following this line of argumentation, we propose the adaptation of the diffusion model to enrich existing implementation models for VCs. Thus, the second research question is: *Which adaptations of the diffusion theory by Leonard-Barton (1988b) are necessary in order to explain the implementation process of internal ICs?* The rest of the paper is organised as follows. The next section presents the mentioned diffusion model. We then describe the applied case study methodology, followed by the DIP case. The paper ends with a conclusion including the contributions to theory and practice as well as the next research steps.

## 2 Recent Literature

The diffusion model by Leonard-Barton (1988b) claims that specific characteristics of an innovation influence the design of the implementation strategies in organizations, which then determine whether or not an innovation is accepted by the organizations’ members (Figure 1).

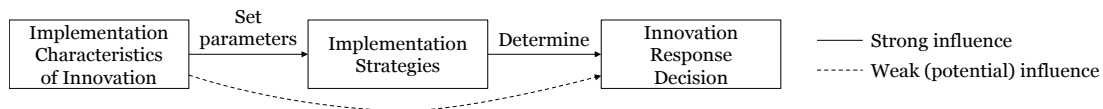


Figure 1. Influences on Innovation Response Decisions (adapted from Leonard-Barton (1988b))

According to Leonard-Barton’s model, innovations have three implementation characteristics defined in Table 1: *Transferability*, *Implementation Complexity*, and *Divisibility*. These characteristics influence the design of the implementation strategies and thus the innovation response decisions. There are three generic implementation strategies, which are accepted principles in the literature: *User Involvement*, *Sponsors and Champions*, and *Mutual Adaptation of the Organization and the Technology*. These strategies serve as a roadmap for organizations to implement innovations and to derive appropriate implementation measures.

Transferability	<b>Preparedness:</b> Extent to which a technology has shown proof of feasibility in a laboratory or in an operational setting.
	<b>Communicability:</b> Degree to which a technology’s principles can be communicated to people.
Implementation Complexity	<b>Organizational Span:</b> Number of people affected by the introduction of an innovation.
	<b>Organizational Scope:</b> Number of different organizational (sub-) units that must alter their output or input operations to accommodate an innovation.
Divisibility	<b>Modularization:</b> Division of a technology into stages or segments, each of which delivers some benefits upon implementation, even if no further segments are adopted.
	<b>Individualization:</b> Potential for beneficial use of a technology for individual output by organizational members independent of the responses of others engaged in the same task.

Table 1. Implementation Characteristics of Innovations according to Leonard-Barton (1988b)

The *User Involvement Strategy* is about the involvement of target users in the development of the innovation to create commitment to innovation. The stronger the involvement, the higher the likelihood that users are accepting the innovation. Due to the involvement (e.g. by developing design concepts for a new technology), the target users share risks and responsibilities with the developers. Thus, their willingness to accept the innovation is higher (Leonard-Barton, 1988b).

The *Sponsors and Champions Strategy* is about the integration of the so-called Sponsors and Champions in the implementation process to let them promote the innovation. These are people with a strong social influence on the members of their social network (Goldenberg et al., 2009). They promote the innovation and convince employees to use the innovation. They are also the ones who have organizational power to push the innovation, that is, they accompany the innovation through the whole implementation process. Thus, the *Sponsors and Champions Strategy* focusses on the identification of Sponsors and Champions in an organization in order to promote the innovation and to accelerate the diffusion process (Goldenberg et al., 2009).

The strategy *Mutual Adaptation of the Organization and the Technology* aims at the continuous adaptation of the innovation by the users to meet the user requirements better. This strategy underlines the need for adapting the organizational context to integrate the innovation completely in the organisation or, respectively, to strengthen the extent of a “wholehearted acceptance” by the employees (Leonard-Barton, 1988b). That is why this strategy recommends initiating structured organizational learning to identify needs for adaptations. The implementation of an innovation in an organization causes responses by the affected employees. These innovation response decisions can be optional or policed (Leonard-Barton, 1988b). While the former results in a free individual decision of using or rejecting the innovation, the latter forces employees to use the innovation, which can lead to underutilization or even sabotage (Leonard-Barton, 1988a).

Leonard-Barton (1988b) calls the freely decision of using an innovation “wholehearted acceptance” and means a consistent and regular usage of the innovation (Piening, 2010). Employees who not fully accept an innovation do not necessarily sabotage an innovation not even in a mandate environment. However, they express their level of acceptance in the manner of how they use the innovation in terms of duration and frequency and how they integrate the innovation in the working environment (Brown et al., 2002). The user responses are caused by the attitude toward an innovation which is in turn a strong predictor for the level of acceptance (Brown et al., 2002). Although this model is 26 years old, it is still applied. For example, Klein and Krcmar (2003) developed an implementation model for Electronic Meeting Systems (EMS) consisting of five stages (agenda setting, matching, redefining, clarifying and routinizing). For doing so, they characterised EMS based on the innovation characteristics defined by Leonard-Barton (1988b). Afterwards, they integrated elements of the implementation strategies in their model. Sharma and Yetton (2003) applied the diffusion model to analyse the influence of management support and task interdependence on implementation success. Wei et al. (2005) analysed the implementation process of an EPR system by referring exclusively to the strategy *Mutual Adaptation of the Organization and the Technology*. Lager and Frishammar (2010) developed a framework supporting inter-company collaboration and technology transfer. Their framework is based on the *User Involvement Strategy*. Saeed et al. (2011) applied and analysed the strategy *Sponsors and Champions* to gain insights in the role of top management support and executive level interventions when companies implement CRM systems. Majchrzak et al. (2000) used this diffusion model to analyse the adaptation of a computer-supported inter-organizational virtual team.

### 3 Research Methodology

In order to derive deeper insights in implementing ICs in organizations we looked for successful examples. We found such an example in DATEV and applied the case-study approach, as it is an appropriate method for exploring new phenomena, and since current theory is not adequate (Eisenhardt, 1989). Our research on this topic is designed as multiple-case study to develop an implementation model for ICs and to justify our results (Benbasat et al., 1987; Yin, 2013). As our research is still in progress, we present our first case.

#### 3.1 Background Information of the DATEV Case

DATEV is a registered cooperative with 39,000 members and about 6,200 employees. As part of its service portfolio, DATEV offers additional software to accountants and lawyers as well as diverse consulting services in Accounting, HR, Tax, ERP, and Business. In July 2011, DATEV launched DIP for testing. In May 2012, DIP got the full enterprise approval. The community software is based on Microsoft SharePoint. Apart from the development of ideas, DATEV aims at sensitising its employees to the need for innovation. They also aim at fostering collaboration across hierarchies and departments. To-date, about 20% of DATEV’s staff is part of DIP and generated over 500 ideas. Currently, the DIP community develops nearly 20 ideas per month.

#### 3.2 Data Collection and Analysis

Semi-structured interviews containing structured as well as unstructured questions were conducted. Based on Myers and Newman (2007) we used a minimal script and improvised during the interviews. According to Yin (2013), semi-structured interviews are an appropriate method in this context, since they provide valuable information regarding the object of the research, and the method is flexible in gathering the interviewee’s experiences. To represent a variety of voices (Myers and Newman, 2007), three representatives of DATEV were interviewed: the responsible manager for DIP and two

department managers. The manager of DIP is head of the “innovation management” at DATEV and has expertise in innovation, creativity and project management. The second interviewee is head of the “order management” and has experiences as campaign manager at DIP. The third interviewee is head of “knowledge transfer” with experiences as campaign manager at DIP as well. These representatives had the qualification to speak about the implementation process of the IC in detail. The interviews dealt with the reasons for implementing DIP and the targets DATEV pursues with DIP. Another point was the implementation process itself. This means in detail, the applied implementation activities, individual responsibilities for specific activities, and experiences that have been made in the DIP implementation process as well as in similar projects. Other aspects in the interviews were, how DATEV communicated the implementation of DIP and how they overcame internal resistances. Afterwards, the interviews were recorded and transcribed. The transcripts were broke down as to the mentioned implementation strategies. The transcripts were analysed regarding emerging topics (Eisenhardt, 1989). We collected additionally background material such as corporate brochures about DIP by asking the interviewees. We also gathered additional information (DATEV press releases and presentations) by using Google. Finally, we conducted triangulation between interview data and the collected background material.

## 4 Results

The following sections present the interview results. We describe firstly the characteristics of DIP according to the mentioned innovation characteristics. Afterwards, we point out which measures DATEV applied during the implementation process and link them with the innovation characteristics.

**Implementation Characteristics of DIP:** To describe the phenomenon of ICs comprehensively, it is necessary to separate between the underlying technical platform on the one hand and the community itself (that is the members respectively users of the technical platform) on the other hand. In the following sections, the term platform is used as a synonym for technical platform, while community means the users of the platform. The platforms of ICs are typically internet-based and provide functionalities for ideation. This means for example specific templates for publishing ideas, a system to vote for the generated ideas, and the possibility to comment ideas. These functions are not exclusively developed for ICs. In fact, people use these functions in other contexts like news pages in the internet or in discussion forums. Thus, the criterion *Preparedness* is high, as the technology of ICs has shown proof of feasibility in operational settings. Since DIP is an internal IC, DATEV can use all available corporate communication channels to communicate DIP’s principles and objectives. Thus, the criterion *Communicability* of DIP is high and *Transferability* is high as well. The success of ICs is strongly connected with the numbers of generated and realized ideas as well as with the community size (Stieglitz, 2008). In large companies as DATEV is, the implementation process affects a large number of employees. In addition, ICs break with traditional ways of working and communicating, which can lead to resistance (Erickson et al., 2012). Engaging in an IC may also mean that an employee from unit A develops ideas for unit B while unit A and unit B are internal competitors. Apart from this, the realization of generated ideas causes changings in the internal innovation process, since ideas from DIP have to be further processed additionally to ideas developed by the own innovation management. *Organizational Span* and *Organizational Scope* are thus high which implicates a high *Implementation Complexity*. The platform of DIP can be modularized. Functions of the platform such as ideas voting or networking are controllable, since it is possible to activate and deactivate these functions. However, only if all required functions are activated the IC can fulfil their purpose. We thus classify *Modularization* as low. ICs need a critical mass of users in order to generate the required content. Otherwise, there will be ideas of low quality or even no ideas. Therefore, the benefit of DIP would be low if just a few employees make use of DIP. We classify *Individualization* of DIP as low and thus *Divisibility* as low. The following section presents the applied implementation measures at DATEV and how these measures reflects the characteristics *Transferability*,

*Implementation Complexity, and Divisibility.* The implementation measures are classified by the mentioned implementation strategies (Section 2).

**Adaptation of Technology & Organization:** Since Implementation Complexity of DIP is high, there is a need for a continuous adaptation of the platform (technology) and the organisation. DATEV did not involve users in the initial development of the platform; rather, an external software company was responsible for the development. However, DATEV involve employees indirectly in the advancement of the platform, by recording and analysing the community activities. The community managers additionally gather information about the impacts of conducted ideas campaigns and get feedback from campaigns managers. Ideas campaign is DATEV's label for ideas competition. Based on the collected information, the DIP managers develop the concept of DIP and the platform further. One example for such advancement is the registration system. At the beginning of DIP, the registration process was invitation based. The DIP managers invited employees who have the abilities and expertise that could be useful for the current ideas campaign. The recipients got a contingent of invitations, which they could send to other employees who have then granted registration. In practice, the impact of this registration system did not meet the expectations, which is why the DIP managers stopped it. After they opened the community for all employees, the growth of DIP accelerated. Another example is the potential implementation of "rooms", which was suggested by the community. These "rooms" are discussion groups that are closed to other community members in order to be able to discuss topics or to develop initial ideas within a small specialized group before being considered in the whole community. *"We are thinking of implementing "rooms". Sometimes there are topics, which cannot be discussed in such depth in the whole community."* (quote from interview)

If a company implements a new technology in its organisation there is a need of adapting existing structures, processes and if necessary a reallocation of resources. Otherwise, the organization cannot make use of the technology in an effective manner, since the technology's output is not usable. This is also true in the context of ICs. The realization of ideas generated by the community is a success factor and that makes the integration of an IC in the organisation complex. DATEV tries to address this issue by involving head of departments as ideas campaign managers. The involvement of head of departments guarantees that the developed ideas do not disappear in the organization. Rather they have a strong interest to implement the ideas as far as they are suitable to solve issues in their departments. Another organizational adaptation was that campaigns managers learned not only to watch for employees, who have the capabilities and expertise to implement ideas but also to discuss ideas with these employees face to face to get further impressions and improvements. This increased the acceptance of the created ideas as well as the likelihood of realizing the ideas. *„I made the experience, that it is important to look out for people who can realize an idea and to enter a discussion about the idea. It provides you further benefits. We invested [...] much time on that. Indeed, you leave the platform [...], but this is really valuable."* (quote from interview)

**Integration of Sponsors & Champions:** In order to handle the high Implementation Complexity, caused for instance due to internal restraints, Top-Management support was highly relevant. The support was not only useful in terms of required resources rather than signalling that DIP is strategic relevant for DATEV and that there is a strong commitment by the Top-Management. In this sense, the Top-Management are Sponsors and Champions for DIP. *"The most important point was having the strong support of the Top-Management. This support made some things easier."* (quote from interview)

Another "Sponsor and Champion" is the DIP-manager, who is head of the innovation management. He has the required organizational influence and resources to push DIP forward. His position within the hierarchy gives him opportunities to have discussions with other heads of departments and to convince them about DIP. Managers of ideas campaigns can also take the role of "Sponsors and Champions", since they are mainly heads of departments. Being both campaign manager and head of a department, increases the likelihood that a campaign will succeed, as campaign managers are highly motivated in

getting ideas. Thus, campaign managers personally invite employees to contribute to their campaign. The selection of these potential new members is based on personal networks and is not supported by IT, for example by corporate social networks. This measure is a multiplier, since information about DIP are broadcasted via the networks of campaign managers in addition to corporate communication channels. Another point is that due to the integration of heads of departments the DIP management shares the responsibility for DIP's success and thus reduces the Implementation Complexity. *"The success of a [...] campaign is a question of the right topic. That means: Is it [...] relevant? Is there a connection to a [...] project? The results of the campaign – fast implementable ideas, fast evaluations of ideas - must be of interest for the campaign manager."* (quote from interview)

Campaigns managers and DIP managers watch for early adopters within the organisation. Early adopters can take the role of an informal champion (Leonard-Barton, 1988b) by achieving a high status (bronze, silver, gold) at DIP. Being an informal champion motivates not only the informal champion himself to contribute (Bretschneider et al., 2012) but also other members (Erickson et al., 2012; Preece and Shneiderman, 2009). The status depends on how many points a DIP member collected for submitting, commenting or evaluating ideas. Members can collect passive points when the community votes for their ideas. The development of the collected points is also an indicator whether the DIP managers should stronger engage in DIP or the campaign managers in their campaigns. *"One can observe the development of the scores [...] very detailed [...]. It supports you in terms of: Should I engage more intensive in my campaign?"* (quote from interview)

**Development of User Involvement:** Since Divisibility is low, the DIP management invest a lot in marketing to generate a sustainable community growth. The high Transferability facilitates the marketing, since they can promote DIP's principles and benefits easily. An important measure are the presentations that have been held at meetings and events with a big audience. The DIP management additionally attend orientation days, where new employees can test the community. They also get an access code for registration at DIP. Currently, the DIP management plans to advertise regularly in the internal employee magazine. *"We give a lot of presentations in particular at management level [...]. We notice that we have to do this kind of marketing consequently. You can never do enough of these measures."* (quote from interview)

An important objective at DATEV is collaborative ideation. To foster collaboration at DIP and to develop initial ideas for ideas campaigns, the DIP management animates campaign managers to set up kick-off workshops. These workshops consist of employees that have relevant expertise and can contribute to the campaign. The campaign managers pay attention to form heterogeneous workshops in order to enhance the creativity. These workshops also initiate networking so that people at DATEV get to know each other, which, in turn, motivate the employees to engage in DIP. The combination of offline and online measures supports the community growth (Lin, 2007; Young et al., 2011) and indicates again a high Transferability. *"The combination of [...] workshop and community [...] make sense. We [...] get initial ideas for the campaigns, which serve as examples for other [...] members. They also support networking. Anyway, this approach is really promising."* (quote from interview)

## 5 Conclusion

Internal ICs are becoming important instruments for companies and supplement instruments like employee suggestion systems by enabling collaborative ideation. The process of implementing ICs is critical, since ICs need a critical mass of users. There is also a strong demand on community-side for realizing the developed ideas. In order to present a successful approach for implementing ICs we conducted a case study about the DIP community at DATEV. Our research will contribute to theory in different ways: First of all, we revealed a theoretic basis by applying Leonard-Barton's (1988b) model. By doing so, we pointed out that ICs can be perceived as an innovation. Even though organisations or individuals do not consider ICs as an innovation, the implementation characteristics of innovations are



useful to classify ICs and thus to derive requirements for the implementation strategies. Second, we found need for adapting the model. Clark et al. (2007) mentioned that user involvement improves user satisfaction, but it does not necessarily lead to a productive usage. They argue that user commitment is a better predictor for successful IS implementation, since committed users pursue a successful usage of the IS. Looking at the implementation of ICs, the *User Involvement Strategy* should rather focus on the development of user commitment. This can be realized by Sponsors and Champions from users-side and executive-side, who promote the innovation (Clark et al., 2007). The DIP management already integrates department managers in the community management and promotes this fact. Hence, they aim at the development of user commitment. A distinct separation of the strategies *User Involvement* and *Sponsors and Champions* seems not to be adequate. Instead, a combination of both strategies should be taken into account. Other adaptations concerns the strategy *Mutual Adaptation of Organization and Technology*. The increasing usage of social media in organizations changed the technological environment of organizations significantly. Social media allows an easy way of sharing information and it fosters collaboration (Bergquist et al., 2013). Thus, the efficient implementation of latest collaboration and communication tools should be an element of the Mutual Adaptation Strategy. Furthermore, the adaptation of organizational structures and the platform is not a consequent process rather than a number of single discrepant events (Majchrzak et al., 2000). These events lead not necessarily to less misalignments as Leonard-Barton (1988a) suggested. Not the amount of events is important, but their resolution (Majchrzak et al., 2000). Therefore, the strategy should consider the need for adapting work group structures. In this way, organisations may create an environment “in which discrepant events are openly” (Majchrzak et al., 2000). A last adaptation refers to the prioritization of the implementation strategies. Currently, the model proposes the application of all strategies. Looking at the DIP-case, DATEV emphasis the strategies *User Involvement* and *Sponsors and Champions*. Thus, it is worth thinking about a differentiated application of the strategies. Our research contributes to practice by giving insights in the implementation of a firm’s IC. The analysed measures and experiences (summarized in Table 2) serve as guidelines for community managers who implement ICs. Our results are limited by the fact, that they are based on a single case. The presented case is an initial step and we will conduct further case studies. To identify appropriate cases we will perform internet research and will ask DATEV for interesting interview partners. Our article reveals need for research regarding the execution of ideas campaigns. The interviewed experts identified success factors like feedback to the community or the correct selection of topics. There is also need for further organizational measures. For instance, one can think about integrating community engagement in annual personal target agreements. This measure seems to be promising, but the effects on the IC as well as the effectiveness of the implementation measures in general are not investigated in detail.

Applied measures	Experiences at DATEV	Guidelines for practice
Controlling of the community	Positive: served as basis for decision-making	Control the IC activities
Invitation-based registration	Negative: hindered DIP-growth	Open the IC for all employees
Discussion rooms	No experiences so far	Advance the IC to improve user experience
Top-Management support	Positive: minimized internal resistance	Ensure commitment of Top-Management and promote it
Managers as campaign managers	Positive: increased the number of realized ideas	Share responsibilities with change agents
Attending orientation days, events, meetings et cetera	Positive: raised awareness for DIP	Use corporate platforms to promote the IC
Internal employee magazine	No experiences so far	Use corporate communication channels to promote the IC
Kick-off workshops	Positive: generated initial ideas and supported networking	Combine offline & online activities to initiate activity in the IC

Table 2. Guidelines for practice based on applied measures and experiences made by DATEV

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