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THE CONJOINED VIEW OF ONLINE COMMUNITIES: CO-EXISTENCE OF COMMUNITY AND COMMODITY

Research paper

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Abstract

There is a continued interest amongst information system scholars on online communities (OCs). Current accounts, however, often neglect the complex relations and tensions that exist within and between community participants. This is in particular, where these online communities emerge from and around the adoption of large commercial systems, the tensions between these communities and the vendors of the technologies. This existing 'community' perspective envisions OCs as idealised microcosm of society. In this paper, we criticise this view by drawing attention to the co-existence of conflicts of interests and collaborations within communities. This brings into light the 'commodity' view of the OCs.

In order to do this, we conduct a case study of an online enterprise resource planning (ERP) community, where user organisations voluntarily come together and exchange knowledge. We identify the types of knowledge exchanges, the practices involved in the exchange process, the resulting knowledge relations amongst users and vendors of complex technologies, and the struggles involved in this process. By understanding the structure of interactions, we foreground the existence of commonalities and difference within OCs and discuss how the tensions in the community are managed to support wielding of influence and 'orchestration' of user-vendor relationships.

Keywords: commodity versus community view, trading zone, wielding influence, user-vendor relationships.

1 Introduction

A growing trend in today's business environment is participation in online knowledge collaborations. Vendors and users of complex organisational technologies, from open-source software such as Linux and Apache, to closed-source applications, such as IBM, and Oracle, are jumping on the online community (OC) engagement bandwagon. OCs are "generative spaces" that replace traditional knowledge collaborations with new organisational mechanisms for continuous knowledge creation (Faraj et al. 2016). In OCs knowledge collaboration occur between people of similar or diverse interests (Faraj et al. 2011; Faraj et al. 2016; Majchrzak and Malhotra 2016; Von Krogh and Von Hippel 2006; Yan and Tan 2014) across geographical distances (Bateman et al. 2011; Haefliger et al. 2011; Kanuka and Anderson 2007). Such communities change the contents of interactions (Brandtzaeg and Heim 2007; Haefliger et al. 2011; Ma and Agarwal 2007; Von Krogh 2002; Wunsch-Vincent and Vickery 2006; Yan and Tan 2014). Along with the increasing popularity of knowledge exchanges in OCs, scholars have started to explore the inner workings of communities and their internal processes. Majchrzak and Malhotra (2016) discuss the differences between communities with formal control structures (i.e. incentives, identities, organisation and norms) and communities where there is minimal knowledge sharing structures, and show that knowledge exchanges need to take place in a certain temporal order to produce effective outcomes. Routines and their variations are also seen as enablers of coordination and knowledge exchange in communities with interdependencies between actions where there is a limited formal control (Lindberg et al. 2016). The issue of tensions and conflicts have become a central issue in studies of OCs. In OCs fluctuation in tensions are seen as productive to knowledge creation as they encourage interactions to be generative rather than constrained (Faraj et al. 2011). Johnson et al. (2014) points to the complexity of power law distributions in OCs and show that despite the mainstream belief that preferential attachments are the single mechanisms for explanations of power laws, a wide range of different mechanisms, combined together, can offer a better explanation for such relations. A research challenge of OCs is to understand how the internal constitution of the communities and the practices involved in knowledge creation amongst technology users effect the internal and external tensions and competitions. In other words, very little is known about the structure of interactions (Faraj et al. 2016) and their effects on arrangement of user-user and user-vendor relationships. For instance, recent work shows that there is 'fluidity of participants' who are able to engage and leave at will (Faraj et al. 2011; Faraj et al. 2016); yet whether and how do these fluid members yield power on vendors, or how they overcome their conflicts of interests is unknown. Similarly, determinants of effective 'remixing' to produce innovative outcomes are identified (Stanko 2016); but the extent of influence of these 'remixed' innovations beyond community boundaries are unclear. Therefore, this paper is a response to many calls for research on internal constitution of OCs (Faraj et al. 2011; Faraj et al. 2016; Jeppesen and Frederiksen 2006). It aims to examine the everyday cross-organisational interactions and knowledge exchanges formed in OCs and their influence on user-user and user-vendor relationships and practices, in order to conceptualise the internal organisation and characteristics of such settings.

We assume that OCs provide benefit to their participants by offering them a space to create and exchange knowledge. Thus, we emphasise subjective value realisation in relation to the extent of knowledge benefit that participants get from their participation. We will argue that the knowledge exchange and creation within the community has a major influence on the knowledge relationships of users (within the community) and vendors (outside the community). In doing so, we denote these dynamic middle spaces as co-existence of community (actors as idealised members of a society in which knowledge forces are formed) and commodity (actors as competitors in a marketplace in which power is negotiated and lobbied). This view expands the recent definition of OCs as organisations in which participants focus their interactions on maintaining a dynamic flow of knowledge (Faraj et al. 2016), by highlighting the importance of activities on reconfiguring internal and external relationships.

We conduct a case study of an OC to theorise how the cross-organisational knowledge exchanges in OCs are constituted in order to wield influence. Understanding the dynamics of cross-organisational collaborations offers insights for organisational knowledge exchanges and on evolution of technologies.

2 Design and Methods

This work uses an inductive approach to generate theoretical insights from in-depth examination of OCs. Data for this study was collected through a case study of the Human Resource Online Community (HOC) customer forum, which functioned around the human capital management (HCM) module of an ERP package. Participants of this community are public sector user organisations, who need to be approved by a committee. HOC is an online forum which also holds several face-to-face meetings each year. Members of the HOC exchange around 300 threads of messages each year. Examination of this self-established, self-organised online forum allowed us to investigate an OC in which participation is voluntary, but based on organisational affiliations.

The main source of data for this study was the messages exchanged in the community over two time periods: January to June 2011, and July to December 2016. Prior to the selection of these dates, we conducted a macro level analysis of messages exchanged over the period of eight years (2007-2012 and 2015-2016). This allowed us to do a 'typical case sampling' for the micro level analysis of messages, as the macro level analysis showed our selected durations are not atypical, extreme, deviant, or intensely unusual (Patton 2005). To complement this, we also conducted non-participant observations of HOC face-to-face meetings (four whole day) between May 2010 and February 2012. This helped us to a) understand the context and perceived challenges, and b) follow the face-to-face actions that may influence, or be influenced by, the online activities. Finally, we conducted follow-up semi-structured interviews with 18 participants who were involved in the message exchanges during our online data collection. Interviews were used to explore the processes involved in use of information after the online exchange. We used open-ended questions in the interviews to minimise the likelihood of theory forcing and allow for data emergence (Glaser 1992). Our combined data collection strategy and use of several supportive sources was in line with recommendations of grounded theory approach to ensure validity of the research (Glaser 1978; Glaser 1992).

We used an inductive approach to analyse the data. This enabled us to generate insights into how HOC functioned in a fast-paced cross-organisational environment. We began by exploring data within each message, then examining the whole thread, followed by comparing it to other threads, and then combining the results with findings from observations and interviews. This focus on messages allowed us to examine the detail micro-level interactions that occurred within a community but across several organisations.

In order to conduct grounded theory analysis we followed the Glaserian stages for data coding: open coding, selective coding, and theoretical coding. This was supplemented with analytical memos during the project (Glaser 1992). The open coding was primarily conducted on messages, and then on the observation field-notes and interview transcripts. The coding involved understanding the 'meanings' of the messages, rather than the words used to communicate (Miles and Huberman 1994). The open codes were sorted into selective codes by searching within and across data sets and iteratively choosing possible core categories and relating the open codes to each category. This was followed by theoretical coding which identifies the relationship between the selective codes, and finally arrives at the core category. We then 'scaled up' the findings and 'integrated' them with other theories (Urquhart 2013; Urquhart et al. 2010).

3 The HOC Context

Exchanges in the HOC were shaped by temporal and technological conditions that arose during the everyday activities of the user organisations. The HCM module was the backbone of many activities performed within user organisations. It was a tool to run both internal activities of an organisation, as well as delivering services to external clients or legal entities. Organisational activities were highly reliant on the laws and regulations imposed by governmental authorities. So, new rules applied by authorities resulted in changes to organisational processes, outputs, or data. This could mean a need for change in the HCM system setting (part of a larger ERP system, which is characterised by its standard nature). Being a standard application meant that not all user demands were met by the vendor.

Moreover, being a computerised system, there were also cases of data or process errors leading to exceptional conditions in the system. Typically, such situations required quick responses. However, the distance between the vendor and user, could lead to a time consuming process for provision of the appropriate solution by the vendor company. Additionally, the evolving standard application and changing needs of the user organisations encouraged the organisations to seek knowledge particularly around adopting new features. Therefore, expertise and experience, apart from those written in documents, were required to gain an understanding of how to perform actions and understand their consequences.

Taken together, these work conditions, external forces and internal demands, required consultation from other user organisations with similar demands or experiences. User organisations identified similar needs, on one hand to find possible solutions, and on the other hand to use a common voice to speak to the vendor.

4 Findings: Knowledge Dynamics in an OC

Data collected from the forum was initially analysed in terms of its content with relation to the artefact. In order to do this, first, we read the messages in each thread and coded the data, and then we compared the codes in different messages to form the initial categories. Several iterations of coding and grouping led to formation of four data structures as shown in Table 1.

Data Structure	Description
Technical and configurational knowledge exchange - Performing actions in system (e.g. calculation) - Running standard functionality - Advice on pros and cons of adopting a specific case amongst a number of alternatives - Implementation of modules, features, patches - Data specific issues - Errors or performance issues	Messages seeking information about the configuration of the applications: messages asked for possible solutions for a specific need, guidance on best practices, and cons and pros of adopting a particular configuration amongst the various available options. Knowledge exchanges intensified when new rules/regulations were introduced by external authorities. Performance issues or errors led to extended discussions in the forum to obtain a solution.
Process knowledge exchange - Design of organisational processes - Change of system workflows - Support in response to vendor solution	The standard nature of the system, led to the need to either change organisational processes (to match the system), or to change the standard system workflows (to meet the organisational demands).
'Information' exchange - Announcement of error or performance problems - Updates on functionalities, patches and bug solutions - Updates on externally imposed changes	Users 'updated' each other about new information and issues such as new error discoveries enabling dissemination of information for further actions. Users also updated others about new vendor strategies, patches, functionalities, or laws imposed by external authorities.
Consultation - Critical issues and experiences in upgrading - Advice on the stance taken, vendors, third parties - Procurement and contracts - Priorities	Interactions around non-technical matters such as consultation for procurements, tendering processes, up-grades and optimisations, and contractual matters.

Table 1 . Data structures pointing to the contents of exchanges in OCs

Grounded theory analysis of data, revealed knowledge influence as a core category, which formed the basis for the emergent findings. We identified three selective codes: Types of community knowledge influence, cross-organisational knowledge coordination practices, and Cross-organisational knowledge coordination struggles

4.1 Types of community knowledge influence

When analysing the interactions in the forum, the topic 'the influences of knowledge exchanges' emerged as a key theme. We identified three types of knowledge influence in the community as follows:

Knowledge exchange as a local influencer (LI): First, we observed messages seeking information about the configuration of the applications. These messages ranged from asking for possible solutions (including process and configurations) for a specific need or guidance on best practices, to advantages and disadvantages of adopting a particular configuration amongst the various available options. In response to the various needs expressed by users, other members responded by sharing a solution which they employed in a similar situation. In doing so, they expressed their experience about configuration of standard functionalities, customisation of existing application, or experience of choosing a strategy over many possible functions. We found that whilst many solutions were offered the requester tended to adopt the solutions that best matched their circumstances, and had sufficient details to be implemented. The representation of the solution in an understandable and implementable shape, led to selection of solutions within the requester organisation. In this way, the 'power of expertise' in a field which involved both having the knowledge and being able to represent it, led to influence at a local (organisational) level.

Knowledge exchange as an external influencer (EI): Due to the standard nature of the application, the user-vendor distance, and the generic strategies adopted by the vendor, users gathered in the community to form a common voice and get on the vendors radar. We found several examples of this community exercise of power leading to development of patches, system upgrades, new functionalities or even extension of license de-support dates. Such cases of common needs tend to drive long discussions which start as a message thread and may eventually lead into general surveys and future face-to-face meetings. Cases such as this have an effect on the technology and vendor strategy as a whole and hence they influence the wider community of users (who may/may not be part of the OC). A combination of 'power of collectives' (result of relationships between users) and 'political power' (resulted from conflicts of interests between users and the vendor) was used to wield external influence.

Knowledge exchange as a collaborative innovation driver (CID): The existence of user needs, which were not responded to by the vendor, also led to creation of collective solutions. In such cases, users with experience in developing solutions used the OC to exchange ideas and collectively design a solution that could be adopted by the community. This could lead to two types of influence and conflict, one within the community, and one beyond. In terms of the internal influence, due to diversity of expertise and various approaches in solution development, there were sometimes internal conflicts on what is to be incorporated into the community-designed solution. In cases where customisations were to be used within each user organisation, the conflicts were easily resolved as each organisation could use the collective knowledge to customise a solution, but at the same time, they could localise the system based on the individual needs. However, if the collective solution were to be presented to the vendor (to be developed into the standard package), besides 'power of collectives' and 'power of expertise', the 'legitimate power' of community organisers were needed to overcome the internal conflicts.

4.2 Cross-organisational knowledge coordination practices

To better understand how knowledge exchange within the community wields influence, we tried to make sense of the myriad messages that were exchanged in the community. Having three various types of knowledge exchange influences, made it very difficult to identify any seeming order. However, through several rounds of analysis (which involved (a) examining the content of each message by breaking it down and identifying the patterns of information in terms of: 1) what is sent from the requester, and 2) what is received from respondents; and (b) forming themes and categories) we found that the knowledge exchanges involved five cross-organisational coordination practices: Display, audience attraction, representation, co-construction, and localisation.

Display practice: Using a set of activities, users of the technology, made their problems and needs visible to each other. In the cases of LI and CID, users from different organisations, informed others

about the particular choices of configurations and local needs. This was due to the diversity of the technology versions and the wide range of options for configuring the system. To do this the users who initiated threads started by giving an explanation of the state-of-the art situation on technology in their business.

"[…] We are on R12.0.6 and it appears in this version the copying functionality has been locked down to prevent copying from one Business Group to another […]" (Forum)

Such statements provided the base for forming correspondences between the implemented systems as well as highlighting the possibility of discrepancies. These were then followed by a statement which highlighted the need or the local problem faced by the requester organisation.

"One of our schools has just transferred to academy status and one of the employees who is transferring over to the new academy is currently off work on a period of maternity leave. There is still some of the Statutory Maternity Pay to be processed & we are struggling with finding a way… If anyone has had a similar experience or possible solutions I would be very grateful..." (Forum)

Audience attraction practice: LI and CID involved a pitching activity: displaying the problem as a common issue and attracting audience to voice similar or related needs. We identified many cases in which users point out a need for a functionality and collect evidence of similar issues to present to the vendor.

"It appears that Teachers allowances […] must be set up on Individual Elements in order to be compatible with the Standard Solution[…] Are there any other Councils who have set up Teachers Allowances using one element/formula to capture the relevant input values and calculate payment amounts, rather than setting up each allowance on an individual element? I am hoping the answer is yes as this may persuade [vendor] to modify the development to cover councils who use one element/formula." (Forum)

This pitching activity helped other users with similar issues to move forward to form a common voice.

"We are having a similar issue occurring at line 51 […] after the patch application and have raised an SR relating to this issue (SR 3-13623994601)." (Forum)

Sometimes this initiating act of pitching, attracted further pitchers to take a step forward and elevate the discussions. In one case, a user very briefly mentioned that they need a particular functionality which is not available as a standard functionality. This is then taken forward by another user who stresses the fact that, this is a common need forced by policymakers. He further asks for further inputs into the issue:

"[vendor name] does not support EDIFACT which is the format required to upload to the Gateway so you are stuck with a third party… I have also asked [name] to raise it at PS the forum" (Forum)

Representation Practice: Subsequent to demonstrating the case, users with knowledge or experience, represented their responses. They made their knowledge visible to others in the community. This practice did not involve construction of shared meanings across the members of the community. Instead, respondents made sure that they respond in a fast, tangible, observable and readable way. As a result, different individuals could use the responses in various ways. To achieve this, respondents used a tacitly shaped genres (Yates et al. 1999) by representing the technical implementation details including application version, application terms, and particular configurations.

"In 12.0.6 it doesn't do a good job of clearing them down via the Defunct Workflow concurrent request." (Observation)

Use of these genres within HOC structured the communications by offering a socially recognisable template for communication, which helped flow of information in the community. Therefore, without having a collective agreement, the members used these genres to communicate without a need for translation. In addition, to keep the communication going, there were no restrictions on the relevance of responses. While some responses were directly related to the question, others were barely allied with the case. In the former case, responses were direct solutions on an identical case in respondent's

organisations. An example is when a requester asked how to record half-day sickness for employees and he received a direct answer.

"We enter absence days as decimals (e.g. 0.5 days) where appropriate." (Forum)

Conversely, in the latter case, respondents sent responses for dissimilar cases, which the respondent perceived to be useful for the requester. In one case, a user asks how to use "Authorised Delegate Responsibility" to give permission to staff to complete timecards for staff in a different "organisation".

"I have not heard of this responsibility. We use 'OTL Super Timekeeper' [responsibility] to manually create groups and assign individuals from any part of the organisation to them." (Forum)

Furthermore, while some requests attracted a handful of responses, other requests received numerous responses. These responses could lead to collective solutions. In such cases, different respondents, sent messages based on their own experiences, so they could offer different or supplementing replies to one message. This led to an assemblage of responses to be analysed and used by the requester.

Co-construction practice: The fourth type of practice observed in the knowledge exchanges was contribution of members to form a collective case. This practice involved OC's members to revise and align needs. In contrast to the response representation practice, in which separated elements were juxtaposed by the requester to form a local solutions, this practice involved collaborative efforts in which continuous identification of commonalities and elimination of difference took place.

"These arrangements apply to all members, those who remain in final salary arrangements and those in career average." (Forum)

Use of the OC facilitated this cross-organisational work by creating a common space within which members could locate and learn about common needs and engage in dynamic construction of a case (to be presented to the vendor). Constructing a case usually started by creating list of requirements and prioritisation.

"[we need to] compile a list of MDC topics… I have started the list. Email me some content…" (Forum)

When requirements became clearer, whitepapers were produced to provide the details. Members added their contributions and comments to various sections. As they did so, conflicting needs became more clear which led to further revising and aligning activities. In this way, the OC allowed for speedy formation of groups with similar needs, and provided a middle space for co-construction of cases or solutions.

Localisation practice: The final practice we observed in the community was reconstruction of a localised version of the knowledge that was exchanged in the OC. In the case of knowledge exchanges as an internal influencer, this was due to receiving a range of (related or unrelated) responses and transforming them into usable action for requester organisation, taking into account organisational configurations and situation.

"We are now following the validation rules provided by [Respondent3] and setting up our own Unique ID. We use it to differentiate our payrolls [as suggested by Respondent2]" (Interview)

This practice involved recompilation of the received responses, combinations of the loosely linked ideas and coming up with a final solution usable by the requester's organisation. In the case of knowledge exchanges as a driver for innovation, this was due to having to overcome the conflicts and reaching an aligned state. In this case the members agreed on a common case within the community (described in the previous practice), but then localised it within their own organisation based on individual needs.

4.3 Cross-organisational knowledge coordination struggles

The notion of 'struggle' also emerged as a theme in interviews and observations. We observed two types of struggles in the community space: 1) control of decision making, and 2) temporal accountability.

In the first case, the existence of conflicting needs within the online community could lead to situations where participants combated domination by others in the forum. Some members voiced their differences and insisted that their unique ways of performing things was essential in their daily activities.

"We each perform this calculation differently. We cannot simply agree on one set of rules…" (Interview).

In such cases, some members tried to take control of decision making in construction of cases. In doing so, they had to go through the complexity of unifying practices, which meant aligning the case toward specific needs of one or a few organisations.

"We [three organisations] have worked out this formula. Then by running the process we can have the number of exempted days. Is this feasible for everyone?" (Observation).

Such cases sometime led to long negotiations, lobbying, and even disputes and disagreements amongst members. In response, the dissatisfied members voiced their concerns and tried to take the control back to the community.

"Can I request that your discussions with any individual sites are publicised to all, as a lot of users will be currently undertaking some sort of activity relating to MDC. Therefore, it is important that everyone is kept fully aware of any issues, rather than addressing individual sites issues." (Forum)

The second case (temporal accountability) was a contradictory type of struggle. Some members did not put effort in construction of cases, or even supporting the cases. In these cases, despite their common need, they did not take the responsibility to respond. This led to slowing down or cease of development of cases.

"after several month of chasing, [Vendor] have now designed a patch, but we do not have enough volunteers to test the solution and this is due to other intensifying priorities." (Observation).

In these cases, the community participants, either did not observe sufficient benefit from taking part in constructing or supporting the cases, or their interests had changed over time.

"We asked for it five months ago… but we are now too busy with all the other things…" (Observation).

So the question of who is responsible for specific issues to be taken forward, was a struggle at times. In order to overcome this, the community tried to make clear but temporal responsibilities of different members. This was mainly done through informal and emergent actions.

5 Discussion: Co-existence of community and commodity

Our study shows in an OC, the community and the commodity model co-exist and complement one another. The characteristics of this conjoined community and commodity model are: first of all, there is free sharing of knowledge, but only to a certain extent and for a higher goal; Knowledge is shared to support needs of peers, draw attention, and wield influence. As a result, there is both 'free sharing' and 'trading'. Secondly OCs are self-governed spaces with flat organisational structures, distributed accountability, and decentralised decision making. However, when there is conflict of interests amongst members, temporal dominating directives are formed to overcome the internal tensions. Thirdly, in OCs knowledge is formed collectively, however, there is constant negotiation and lobbying taking place to overcome the differences. In such spaces there is a collective cognition of knowledge to enable the exchange, however this collectiveness is time and space-dependent. Members perform local configuration and have various takes beyond the community making the community a middle space. Fourth, the community model incentivises for the production of public goods (creation of ideas that are beneficial for many members), whereas the commodity model incentivises for formation of innovations: peer reward vs. market reward. Both models must be in place to enable working of the OC.

The balance between commodity and community is not uniform. The boundaries between the two are moving. In OCs, there is an ongoing opposition of mutually endorsement of commonalities and preservation of individualities. The OC tries to foreground the homogeneous needs to create a common

voice, which can wield influence beyond its boundaries. This is presented as a one-size fits-all need. However, at the same time there are differences in demands too. Therefore, again through this common voice, these differences are presented as configurable needs resulting in more complexity, which are unwelcomed by the vendors.

Our findings also show that there is a combined self-regulatory model present in OCs, which complement one another: competition (commodity) and collaboration (community). To make this happen, a set of co-ordination practices are in place. To develop these ideas further, we see parallels between our findings and Galison's idea of 'trading zone'. Galison (1997) shows how different communities within physics work together and align their heterogeneous activities to achieve their goals. He proposes the 'trading zone' metaphor to underline how actions and ideas are coordinated across communities despite differences in local innovative rates and distinct innovation trajectories. This notion allows for unconnected variations of innovation within and between communities. We argue that the 'trading zone' concept can describe the nature of knowledge exchanges that occurred in cross-organisational OCs. In these trading zones, whilst there is a fast exchange of needs and knowledge without the necessity of 'transformation' or 'translation' (path-independent), there is also a possibility of formation of impermanent collaborations of professionally focused players, who involve in concurrent alignment of needs and ideas (path-dependant), which are then followed by local act of organisational expansion and configuration (path-independent). Using the notion of trading zone, helps to make sense of the complex knowledge exchange practices in OCs by showing that the solution generation (and strategy development) paths of various actors are interwoven with each other, as the knowledge from one organisation inserted into and influenced solution generation and strategy development path of another organisation, thus acting as a trading zone and influencing the trajectory of both paths (Galison 1997). On one hand, certain knowledge generations became mutually dependent, providing a force to push the collaboration forward and extend boundaries of influence. On the other hand, localisation of generated knowledge remained in the control of the individual organisations. This view expands the work of Kellogg et al. (2006) on coordination practices in OCs. We show that when participation in OCs are on voluntary basis and organisations are developing their final solution on their own, the display, representation, and assembly practice are not sufficient for cross-organisational knowledge collaborations. In addition to these, two other practices are needed: audience attraction (pitching of the issue) and transformation of the solutions to local settings.

This research has implications for studies of online communities and organisation science. OC as a trading zone shows that there are several levels of knowledge generations and wielding influence. This contributes to extant literature on impact of online spaces (Desanctis and Monge 1998; Faraj et al. 2016; Haefliger et al. 2011; Zammuto et al. 2007). This study illustrates how online communities influence the interaction patterns between members of different organisations to create new opportunities for exchange of knowledge (Von Krogh 2002) whether it is to support each other or to form innovations. Our findings conform with recent studies in showing that online user communities enable their members to shape strategies (Haefliger et al. 2011) by offering platforms where users from different organisations meet and discuss the challenges and possible approaches in tackling those issues. Through these communities diverse users can voice their criticism towards vendors and their technologies (Kaplan and Haenlein 2010; Kozinets and Handelman 2004) and find ways to act collectively. In this manner, the online community offers a platform for diverse users to voice their needs and take further actions in face-to-face meetings.

We have identified struggles that exist in communities and at the same time, we have shown how the coordination practices meet these tensions to sustain collaboration. The attempt to understand the struggles is incomplete and require further research. Our aim in this paper has been to investigate the internal dynamics of OCs with a focus on relationships and influences on different actors and acts. Although, earlier research have tried to explain some of these dynamics (e.g. Faraj, et al. 2011; von Krogh and von Hippel, 2006), the extant literature has limited conceptualisation of the internal organisation, characteristics, and working practices of such spaces. Existing research show the motivations of individuals to participate and contribute, the factors that could lead to ties or fluidity of OCs, and how value is generated in such settings. This paper suggests an alternative conceptualisation,

one that goes beyond the 'community' aspect of the OCs. We argue that the unique nature of OCs offers a conjoined space where community and commodity co-exist and as a result, 'free sharing' is for the purposes of 'trade' of knowledge and power. This view shows that that a single account of such spaces is inadequate in understanding the internal processes and the external effects of OCs. We need to understand the complex connections, competition, and struggles that exist within and beyond these spaces.

6 Conclusion

This study was carried out as a response to a critical research gap about the inner workings and practices of online cross-organisational user communities. In this doing so, we went beyond examining communities at an individual participant level, and instead unveiled the details of communities as a space where actions are formed from continual association, interaction and collaboration of different members originating from heterogeneous spaces. This called for primarily opening the black box of community and its internal artefact and secondly analysing actions and participant activities through an in-depth lens. Thus, we went beyond using quantitative approaches and network analysis tools to gain a fine grained understanding of collaboration in online user communities. In conducting this research, the consideration of artefact and organisation, as influencing factors in working of the community, led to unveiling of new understanding and a better conceptualisation of online user communities.

By theorising OCs as middle spaces organised by a combination of community-commodity model, we foreground the existence of both common and contending interests. Most of the existing literature, emphasise the community model and highlight the coordinating act through knowledge translation, transformation, transferring (Carlile 2004). We found the collaboration in the community could be described as impermanent collaborations of professionally focused players for achieving a common target (finding a solution) but with a different intentions (achieving own organisational goals) in a constrained time environment. They formed temporal actions to achieve fast response to their needs. No long-term social tie making and commitment was necessary. Due to existence of each individual's own organisational priorities, too much contribution to the group could conflict with one's own responsibilities. Hence, in such groups, individuals contributed to the achievements of others by performing non-committed actions beyond the mandates defined by their own organisation, and at the same time accomplishing solutions to their organisational needs. In order to do this, they sometimes performed as one would perform in a community (free sharing of knowledge), and other times they traded their knowledge as a valuable commodity to achieve a higher benefit. This community-commodity mode of organising enabled long endurance of the OCs and the possibility to wield influence beyond the boundaries of the community. This form of interaction and knowledge trade has resulted in reshaping of relationship not only between users and vendors (by changing the power dynamics), but also it has reformed the user-user links by offering a space where alliances are formed to enable collaboration and wielding of influence.

This paper has been an attempt to conceptualities the internal organisation of OCs by identifying the knowledge influences, coordination practices and struggles. As mentioned earlier further work is needed to expand on the possible struggles of such settings. Also further work is needed to understand the extent and value of each type of influence resulted from participation in OCs. In order to do this more in depth studies of vendors and adopters are needed to expand the study beyond the boundaries of OCs.

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