

Integrating corporate innovation communities: The role of structure and culture

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Abstract: A fundamental weakness of current research on corporate innovation communities is that knowledge about how to alter them for innovation endeavors remains vague. To help facilitate this gap, we analyze the influence of organizational contexts on innovation activities and outcomes from a contingency theory perspective. From the analysis of multiple in-depth case studies, four types of organizational integration as triggers for distinct sets of innovation activities as well as enablers for divergent sets of innovation outcomes have been identified. Based on our findings a taxonomy of organizational integration of corporate innovation communities is developed.

1. Setting the Stage¹

Organizations increasingly rely on corporate innovation communities as a means to unleash the innovative potential of their employees. These communities are typically (but not necessarily) characterized by mutual collaboration in online setting to search, select and develop innovations. They are mostly supported by social software and bound to organizational contexts in which they are integrated [AR08][BH02]. However, organizational integration as a pre-condition for innovation to occur [AR08] often remains limited due to missing understanding on its effects on innovation activities and outcomes. Thus, the present article illuminates the question ‘how does organizational integration influence corporate innovation communities?’.

To help facilitate this endeavor we apply contingency theory [Ga73] [BS94] [LL67]. It builds on the premise that organizational contexts frame individuals’ activities and outcomes [G184] [BS94] [LL67]. Specifically, several scholars emphasize the crucial role of supporting cultural and structural contingencies for innovation activities and outcomes to occur [BS94][LL67][BK04]. Hence, contingency theory offers an instrument to determine the antecedents of organizational contexts on corporate innovation communities.

2. Theoretical Perspectives

Contingency theory underlines that contingency, i.e. structural conditions of a given organization [BS94][LL67], explain antecedents determining particular activities and outcomes of employees [G184][BS94][LL67]. Whereas contingencies may relate to the nature of tasks or teams [G184], this study focuses on two contingencies frequently highlighted to enhance innovation activities and outcomes in general: organizational culture and structure [BK04] [BS94][LL67]. Conclusively, individuals’ innovation-related activities depend on contingencies in which they are integrated.

Community researchers stress the importance of organizational integration, such as cultural and structural integration, for corporate communities to flourish [Ko05][Br01][KB01]. First, cultural integration comprises sets of norms, values, beliefs, attitudes and procedures [De84] that value activities of organizational communities [KB01]. Specifically, innovation activities are fostered by cultures that embrace pro-activity, creativity and risk taking while relying on open and informal interactions [An01][CF92][GS01][GW90][Sm98]. Second, structural integration includes amalgamation of administrative procedures – e.g., goal system integration, provision of resources, integration of performance appraisal systems etc. [Br01][VW07][LC03][GZ99]. For instance, several empirical studies show that financial resources have to be provided to ensure efficiency of community activities [Br01] [LC03] [VW07].

¹ For a more nuanced discussion with a clear management focus, see also Bansemir, B., Neyer, A-K., Mösllein, K. M.: Anchoring Corporate Innovation Communities in Organizations: A taxonomy. International Journal of Knowledge-Based Organizations, (in print).

Although it is well-known that adequate sets of contingencies support community viability at large via cultural and structural integration, insights concerning the influence of these contingencies on innovation activities and outcomes remain rather limited and often speculative.

3. Research Approach

To answer our research question, multiple case study method was applied [Ei89][Yi03] including twelve in-depth case studies from varying industry sectors. All of the participating firms in knowledge intensive industries typically applied a wide range of innovation methods and possessed versatile practical experiences about innovation supportive contexts. In sum, 45 in-depth interviews were conducted, using a semi-structured interview guideline. Each interview lasted from 45 to 120 minutes, averaging 90 minutes. Usually, at least two interviews per case were conducted and recorded. Besides interviews, data were enriched by extensive documentary analysis. Data analysis followed Mayring' [Ma02] five step research procedure, including determination, explication and revision of categories, summative check and interpretation. Accordingly, transcripts, notes from meetings and extensive documentary were analyzed following these typical content analysis procedures [Ma02][MH94][RB00].

To achieve high levels of credibility and to reduce potential post hoc response bias, interviewees were explicitly asked to explain their statements in terms of stories and individual experiences [Go92]. Interviews following a semi-structured guideline lasted from 45 to 120 minutes, averaging 90 minutes. All interviewees held an academic degree (around 30 % PhDs). Usually, at least two interviews per case were conducted. Altogether, 46 interviews were conducted. Further information about organizational affiliation, professions of interviewees etc. refer to table 1.

Case	Employees	Professions of interviewees	Interviews	Business
α	50.000-100.000	Innovation & strategic managers	9	Employment agency
β	15.000-30.000	Innovation, strategic, project & human resource managers	8	Service provider
γ	5.000-15.000	Executive officer, innovation, project, strategic & human resource managers	8	Accounting / Auditing
δ	> 100.000	Innovation & strategic managers	2	Communication service
ϵ	> 100.000	Innovation managers	2	Airline
τ	50.000-100.000	Innovation & project managers, engineers	5	Automotive manufacturer
λ	50.000-100.000	Innovation managers	2	Semiconductor
κ	5.000-15.000	Project & innovation managers, mechanical engineer	3	High-tech manufacturer
λ	< 5.000	Strategic manager & consultant	2	Innovation Consulting
μ	< 5.000	Strategic manager	1	IT solutions

ν	< 5.000	Strategic manager & software engineer	2	IT services
ξ	< 5.000	Marketing manager & consultant	2	Innovation solutions

Table 1: Case study companies.

4. Results

We find that cultural and structural integration are of major importance for innovation activities and outcomes in corporate innovation communities to occur. In particular, four types of organizational integration to trigger distinct sets of innovation activities and to produce divergent sets of innovation outcomes have been identified. The following section presents these four types of organizational integration in greater detail. These are: (1) no integration, (2) structural integration, (3) cultural integration and (4) dyadic integration.

No integration

No integration describes situations in which corporate innovation communities are neither culturally nor structurally integrated. First, in our case studies innovation activities under such conditions remained limited in terms of community members seeking for innovations and adapting them to strategic objectives. For instance, innovation activities are not structurally supported, by means of incentive schemes, resources etc. However, as they are not connected to compensation in any form, employees do to seek for innovations. Moreover, we found that innovation activities in corporate innovation communities are not supported socially, in terms of the organization's culture. Second, our data analysis reveals that innovation outcomes sparsely emerge under conditions of missing cultural and structural integration.

Structural integration

Structural integration unfolds as corporate innovation communities are not culturally, but structurally integrated. First, we find that innovation activities under conditions of structural integration are best described as community members recurrently seeking for innovation opportunities. Similar to the conditions of dyadic integration, innovation activities are structurally supported by means of incentive schemes, resources etc. Moreover, central budgets for innovation deliver resources for innovation activities, which would otherwise be terminated. Consequently, community members pro-actively seek for innovation opportunities recurrently. However, missing cultural integration hinders effective adaption of innovations to strategic objectives and prohibits social support for innovation activities. Second, innovation outcomes under conditions of structural integration are characterized by low amounts of innovations but they emerge recurrently. Our data analysis reveals that structural integration delivers constant motivation for community members to produce innovations. Hence, community members develop innovations recurrently, along other obligations. Despite this finding, missing social support lowered efforts to develop high amounts of innovations.

Cultural integration

Cultural integration displays situations in which corporate innovation communities are culturally, but not structurally integrated. First, our data analysis reveals that innovation activities, typically emerging under conditions of cultural integration, refer to adaption of innovations to strategic objectives. As it was the case under conditions of dyadic integration, cultural integration leads community members to adapt innovations to strategic objectives. However, community members do not seek for innovations constantly as their efforts are not structurally supported – e.g., by means of rewards of any kind or accessibility of resources to market innovations etc. Second, contradicting work situations lead to innovation outcomes characterized by high amounts of innovations which occur only occasionally: On the one hand, structures over-emphasize daily tasks to be fulfilled. For instance, direct supervisors penalize innovation activities as they aim at achieving pre-defined goals. On the other hand, corporate cultures advocate innovation activities in corporate innovation communities. Social pressure, in terms of intensive interactions and persuasion, delivers a major impetus for community members to participate in innovation activities and ignites considerable efforts to produce high amounts of innovations. Consequently, innovation outcomes were not generated recurrently, but occurred if triggered through social pressure. However, our data emphasizes that if community members finally participated in innovation activities, they were able to generate high amounts of innovations. In sum, cultural integration results in innovation outcomes characterized by high amounts of innovations developed if triggered by social pressure.

Dyadic integration

Dyadic integration describes a combination of cultural integration– e.g., sets of norms, values, belief etc. – and structural integration of corporate innovation communities – e.g., incentive schemes, budgets etc. Particularly, our analysis reveals that community members profit from cultural integration in two ways: first, they are able to rely on open and informal communication styles. Second, a clearly explicated frame for their innovation activities is given. These features lead to innovation activities characterized by proactive adaption of innovations to strategic objectives. Hence, cultural integration explicates a frame for innovation activities, upon which community members are able to adapt innovations to strategic objectives. Moreover, structural integration leads community members to constantly seek for innovations. Under conditions of structural integration community members are cognizant to seize innovation opportunities as they emerge from daily work procedures. In overall, our findings show that a self-reinforcing system including cultural and structural integration leads to innovation outcomes characterized by high amounts of innovations developed recurrently: First, community members experience cultural support in a first step. As a consequence of cultural reinforcement, they are eager to achieve high amounts of innovations. In numbers, each ordinary employee developed one innovation per year based on around 20 to 30 initial ideas. These innovations are supported by structural integration, in terms of resources given to follow-up etc. Second, community members attempt to produce innovations recurrently as they experience recognition and are not only socially support, but also structurally. In sum, dyadic integration results in innovation outcomes characterized by high amounts of innovations developed recurrently.

5. Discussion & Conclusion

The main purpose of the study was to investigate if different types of organizational integration of corporate innovation communities exist. By analyzing 12 in-depth case studies we can derive two lessons-learned, which have important implications for research and practice.

As a first result of our in-depth case studies we derive to a taxonomy of corporate innovation communities, characterized by innovation activities and outcomes (see figure 1), which result from varying constellations of cultural and structural integration. Innovation activities describe the modality in which community members cooperate. Our data analysis shows that innovation activities may be described by attempts to adapt innovations to strategic objectives of the firm. Also, innovation activities are characterized by the pro-active seeking for innovation opportunities of community members. Innovation outcomes describe results of innovation activities in terms of quantity and timely occurrence. Depending on the degree of either structural or cultural integration, a combination of both or no integration, our findings show that (i) innovation activities result in higher or lower amounts of innovations developed and (ii) that innovation outcomes either occur recurrently or occasionally. Given these insights, future research may want to examine additional contingencies of integrating corporate innovation communities. Moreover, despite or aim to shed light on the influence of contingencies on innovation activities and outcomes, in terms of amounts of innovations and their timely occurrence, future research might be interested in analyzing in greater detail the extent to which radical and/or incremental innovations result. Specifically, one might speculate that dyadic integration is a means to achieve ambidexterity, however more research is needed.

Second, from a practitioners' perspective this paper leads to a number of consequences for the design of IT-platforms for corporate innovation communities. For instance, community platforms should possess functionalities and interfaces to feed other enterprise resource planning software, like SAP R3, Oracle OS etc., under conditions of structural integration. In fact, such system integration would enable to allocate budgets and incentives in a timely manner and would reduce coordination effort, as observed in our case studies. Additionally, under conditions of cultural integration, community platforms should provide functionalities that support cultural reinforcement. Specific roles given to community members when achieving certain levels of activity or outcome (as implemented in the Linux community) or basic commenting functionalities seem promising. Hence, when implementing corporate innovation communities, our research indicates that distinct sets of functionalities need to be consciously selected.

Conclusively, our analysis reveals that (i) varying types of organizational integration – i.e., cultural or/and structural integration – lead to distinct sets of innovation activities and outcomes and that (ii) functionalities of IT-platforms need to be consciously selected to support organizational integration or corporate innovation communities effectively.

We began this paper by proposing that we are observing a need to consciously integrate corporate innovation communities. We argue that this is a major challenge – for theory and for practice. By identifying four types of organizational integration and its influence on innovation activities and outcomes of corporate innovation communities this paper contributes to this important endeavor.

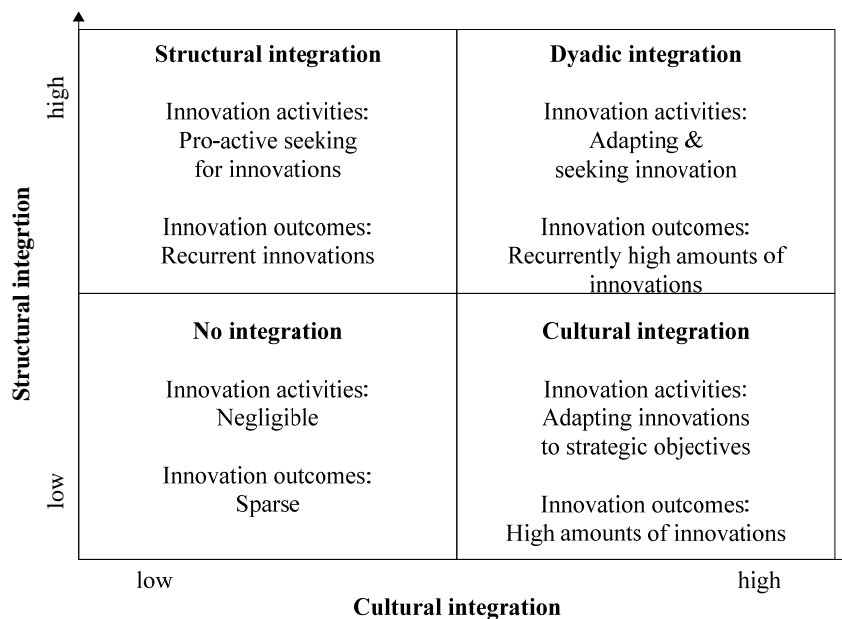


Figure 1: Taxonomy of corporate innovation communities.

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