

Customer Integration – Social and Technology Based Concepts for a Customer Governance

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Abstract

As electronic contacts between customers and enterprises become closer and closer, a new development can be observed in the last years: the integration of the customer into the value creation process. This paper focuses on this increasingly used business model, where central parts of the value creation are outsourced to the customer. This relationship, which we call Customer Integration, is based on voluntary participation on customers' side, which means that intrinsic and non-financial extrinsic motivation plays a pivotal role whereas financial incentives are less important. In the last years well designed Customer Integration approaches were implemented in practice in which the customer increasingly takes over essential and (output) critical positions in value creation. On the side of enterprises Customer Integration leads to the necessity of a conscious and active monitoring, coordination, and control of the relationship - a Customer Governance.

Due to the explorative character of this work, there are two aims of this contribution. The first aim is to develop a conceptual model of how to manage Customer Integration relationships. Secondly, this paper aims at depicting well designed components for a Customer Governance, by referring to innovative Information- and Communication-Systems (IC-Systems) and considering approaches found in open source communities.

Our evaluation is based on the review of the relevant literature and first empirical studies which have been conducted by the authors. In a further step, a heuristic concept for a Customer Governance is defined that will be validated in further research.

Keywords

customer integration, customer governance, customer relationships, virtual communities

Introduction

The discussion about possible forms of customer-company collaboration already started in the 1970s with the work of Toffler (Toffler 1970) who referred to the collaboration between customers and companies and the changing role of the customer as 'presuming', which reflects the combined role of the customer as producer and consumer. Lovelock and Young (Lovelock & Young 1979) analyzed the consequences of customer participation in the production of services. In 1985, Bateson (Bateson 1985) analyzed the motivations of the self-service consumer. Miles and Morris (Miles & Morris 1986) discussed the role of the customer as partial employees. Likewise Bowers, Martin and Luker (Bowers et al. 1990) analyzed how to treat customers as employees and vice versa. With their contribution "Designing Interactive

Strategy: From Value Chain to Value Constellation" in 1994 Richard Norman and Rafael Ramirez (Norman & Ramirez 1994) have stimulated the discussion about the integration of the customer into the value creation, both from the firm's and from the customer's point of view. Dabholkar (Dabholkar 1996) examined the concept of customer participation to enhance service quality perceptions.

Starting with these concepts of product self-individualization, the integration of customers into the value creation processes of companies via electronic networks has taken on new forms recently. Customers turn into coworkers or integrated customers, who fulfil more and more important tasks in the specification, configuration, development, and selling of products. While early concepts of Customer Integration, namely Mass Customization, stressed a better satisfaction of customers' needs, today the companies' own goals of rationalization or differentiation by better products or processes also play a vital role. Like in business-to-business-networks (Tapscott et al. 2000) companies may in future tend to leave central tasks of the whole value creation to the customer. This characteristic separates the Customer Integration concept from approaches like the paradigm of Mass Customization, Lead User Approach or Open Innovation that only outsource parts of product design and specification to the customer. Comparable aspects arise in open source communities (see table 1).

Table 1. Forms of integration of the customer in the value creation process

Collaboration Form	Aims and Goals	Involved Parties	Selected References
Prosuming	combined role of the customer as producer and consumer	customer and company	(Toffler 1970)
Co-Producer	customer as employee	customer and company	(Bowers et al. 1990); (Mills et al. 1986); (Wilkström 1996)
Mass Customization	realization of individualized products in the industrial production	customer and company	(Davis 1987); (Pine 1993); (Rogoll & Piller 2002)
Lead User Concept	integration of the customer in the design phase of products to specify products for the whole market	many customers and company	(Dahan & Hauser 2001)
Open Innovation Co-Creation	integration of the customer in the innovation of new products	many customers and company	(Piller & Stotko 2003), (Prahalad & Ramashwamy 2000)
Open Source Community	integration of the customer in the production and the development of processes	members and communities	(Hippel & Krogh 2003), (Ljungberg 2000)
Customer Integration	integration of the customer in the whole value process to reduce firms' cost, to invent new products and to serve customers' requirements	customers, communities and firms	(Robra-Bissantz & Lattemann 2005)

But still companies are lacking well designed and proofed concepts enabling them to use the potentially new role of the customer. These concepts comprise monitoring, coordination, and

control of the customer ensuring that he fulfils the tasks outsourced to him according to the companies' goals.

There exists a magnitude of practical examples, where the customer is actively integrated into the value creation processes, partly without the use of information and communication technology (ICT). Customers recommend products to each other in Amazons' recommender systems, evaluate contributions in review procedures (e.g. slashdot, wikipedia), overtake software testing (e.g. Microsoft, Datev), support the product development (e.g. Audi, Porsche), evaluate artists in the music industry (e.g. StarSearch), or even acquire new customers (e.g. Avon).

In this contribution we will point out concepts and ICT-components that enable a Customer Governance – the monitoring, coordination, and control in Customer Integration relationships. After explaining the customer integration approach in the following section, the concept of customer governance will be explained in section 3. Section 4 will depict governance mechanisms for a framework for Customer Governance after a further outlook in the last section.

Customer integration

Customer Integration means the integration of customers in the value creation process of a company on the basis of electronic networks. In our understandings, characteristics of a Customer Integration are that the customer takes over pivotal tasks of whole value creation as a cooperating and active partner of the company and does this *voluntarily, knowingly, and principally not for financial reasons*.

Basically customers can be integrated in all customer oriented processes like market communication (public relations, advertisement etc.) product development, sales, and product delivery, strategy development in customer oriented strategies and much more. In some constellations of Customer Integration co-workers become essential parts of the value creation. These constellations are named 'critical', as they call for a Customer Governance in order to ensure the companies' success.

Critical forms of Customer Integration depend on its period, depth, object, and relationship (Robra-Bissantz & Lattemann 2005) as described in the following:

- **Integration Period:** A Customer Integration that only lasts for a short period is uncritical, as customers act according to their own motivation. Longer lasting relationships are to be named critical as they may go along with shrinking motivation of the co-worker and often imply a higher integration depth and more important objects. In the case of longer relationships, a persisting cooperation of the co-worker has to be ensured.
- **Integration Depth:** A deep integration of a co-worker leads to changes in Customer Integration that may result in two difficulties. Firstly, tasks of the customer may change, so that he may be the only one with the competence to fulfil it. Customer Integration in this case becomes 'production critical'. A similar case is 'output critical' Customer Integration, which can be observed if the heart of a business model relies on customers' work, like in the case of 'trendscouts'. Secondly, the Customer may be perceived as a part

of the virtual company's structure. In this case Customer Integration may become critical as the co-worker has to represent the company according to its goals.

- **Integration Object:** As long as co-worker's tasks are of operative nature Customer Integration is uncritical. But as the customer possesses special competences regarding e. g. product development, it may be reasonable to consign him with executive tasks. In this case Customer Integration becomes critical, as the co-worker may not be replaced easily by internal resources any more. Additionally it must be ensured that he acts according to the company's goals.
- **Integration Relationship:** In Customer Integration a single customer or a community of customers as performers take over tasks from the company and fulfill them for a recipient. As long as performer and recipient are identical (groups of) persons, Customer Integration is uncritical. All constellations where this case is not given are to be named critical, especially if the company is the only recipient, which needs the tasks to be fulfilled according to its goals.

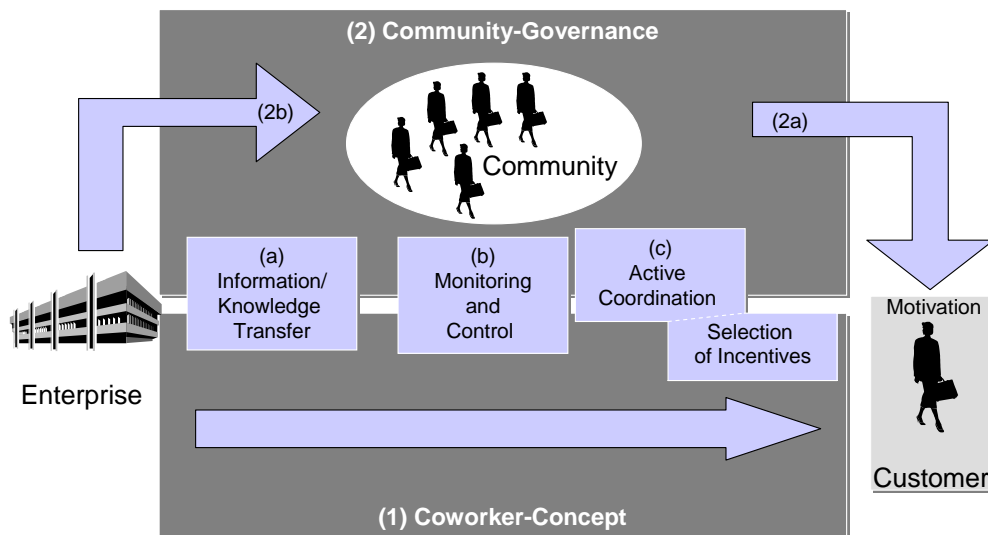
Customer governance

Goals and tasks of customer governance

If customers play a critical role in the process of value creation, a Customer Governance becomes necessary. Its aim can be summarized as encouraging the co-workers to act in the sense of the enterprise. Basic forms and tasks of a Customer Governance, as depicted in picture 1, can be derived from critical characteristics of the Customer Integration (see last chapter).

- (a) **Information and Knowledge Transfer:** In critical forms of Customer Integration, where it is essential that the customer accomplishes his tasks according to the companies objectives (e. g. when he takes over executive functions or represents the company), a strong identification and very tight binding between him and the company is crucial. The company can enforce this by using appropriate incentives. It is of crucial importance that the customer knows the visions, aims, and restrictions of the company and brings along intellectual and practical experience to take over these demanding tasks (Hungenberg 1999). An open and active information policy as well as a knowledge transfer, for example via customer trainings, is a pre-condition of a successful Customer Integration.
- (b) **Monitoring and Control:** In particular in conditions where the Customer Integration is characterized by a high integration depth a permanent monitoring and control of customers' behaviour is necessary. It is essential for the company to immediately recognize, e. g. if the co-worker threatens to abort the interactions.
- (c) **Active Coordination / Selection of Incentives:** The central interest in all critical constellations of a Customer Integration is to encourage the co-worker to an ongoing co-operation by the use of incentives and sanctions, which are primarily not based on financial governance instruments. There are basically two different approaches for an active coordination:
 - (1) **Direct Coordination of Co-workers:** In integration relationships where the firm is the recipient of services provided by the co-worker, or if single co-workers do not identify with a (co-working) community, the firm has to implement direct coordination mechanisms.

(2) Indirect Coordination via Communities: In general, communities enable a self coordination by disciplining single members which are not going along with the way the community is operating (Frey & Irlé 1984) (see in picture 1: 2a). Thus group identification processes can be utilized by enterprises to coordinate single coworkers. Consequently, enterprises have to establish communities actively (see in picture 1: 2b); furthermore they have to empower them to coordinate the teamwork by offering adequate instruments and by initiating processes.



Picture 1. Customer governance

As co-working structures in Customer Integration approaches and in open source communities are very similar, motivation patterns and possible incentives are therefore comparable. According to Raymond's observation, every good co-operation starts by scratching a co-worker's personal itch (Raymond 1999). Thus, the critical point in the collaboration between company and customer is the existence or at least the elaboration of a certain level of a co-worker's intrinsic motivation in the initializing phase of the collaboration that is able to build up a lasting basis for teamwork. Also observable in open source communities is that the intrinsic motivation of co-workers diminishes over time. A possibility to bypass this development is the substitution of intrinsic motivation step by step by extrinsic motivation or even financial benefits. However, the selection of the right incentive is a highly critical. The wrong choice may be counterproductive as Wynn (2004) shows. Socio-psychological studies provide valuable insights for the transfer of intrinsic to extrinsic motivation (Frey & Osterloh 2002). For example, replacing intrinsic motivation by financial incentives shows that individuals will perform better at first. In the long run, the engagement will decrease in comparison to not financially rewarded co-workers (Frey & Osterloh 2002). Furthermore, the extrinsic motivation may displace the intrinsic motivation as soon as the co-worker has the impression to be supervised (Davis 1987). Therefore, a situation-based and motivation-based selection of incentives is a crucial aspect for an effective Customer Governance.

Special characteristics of customer integration and customer governance

Goals and tasks of a Customer Governance are on the first sight comparable to the goals and tasks of traditional human resource management. But a closer comparison of co-workers and customers reveals some relevant differences.

Traditional agency-based governance relies on the central assumption of the prevailing New Institutional Theory, namely opportunistic behaviour of workers. A forceful monitoring, coordination, and control is needed to align attitudes and expectations of the workers with the company's objectives (Hungenberg 1999). In Customer Integration opportunistic behaviour is hardly relevant. Mostly there are no contracts so that co-workers tend to quit relationships instead of trying to take advantage of their position as workers by undermining companies' objectives. This leads to impacts on the concepts of Customer Governance. Firstly its goal can be limited to monitoring and controlling the customer 'to do things', and with this his degree of commitment. Furthermore the objectives of a co-worker can hardly be harmonized with those of the company. Consequently, the goal has to be the synchronization of the two objectives.

Contractual relationships between workers and their companies are determined by a fixed set of mostly financial incentives, which can be interpreted as the "payment" for an explicitly prescribed, and controllable low-level output. In Customer Integration the motivation of the co-worker changes over time, so there are no fixed sets of incentives, which are suitable in the whole co-worker life cycle. According to new behavioural concepts of e-commerce, the selection of incentives in Customer Governance has to be adjusted to any customer, his individual needs, and his individual way of acting in a special situation. Additionally there is no definable minimum output that companies can possibly claim from the co-worker.

The Stewardship Approach, developed in the 1990s, shows some starting points for theoretical concepts of governance in this case (Donaldson & Davis 2001). Donaldson and Davis assume a different human behaviour. Starting at the principle agent "Stewardship theorists" claim that agents (e.g. in our analysis the co worker) do in fact act as responsible stewards toward their firms' goals (Davis & Donaldson 2001). In this sense, co-workers are not influenced by opportunistic behaviour but motivated by intrinsic incentives. Following this, trust and intrinsic motivation can build the basis for concepts of Customer Governance. As trust and intrinsic motivation are also the main pillars of community work, Customer Governance via communities seems once again reasonable.

Concepts and ICT components of customer governance

Direct co-worker governance

Monitoring and control

To encourage customers 'to do things' is not a task that is emerging in Customer Integration. Even common e-commerce transactions often fail because customers cause so called 'stoppages' in the transaction process. They occur when the customer does not fulfil the expected action but instead quits of all kinds of interactions. Push concepts in e-commerce are able to overcome these stoppages by tracking all activities of the customer, reporting

deviations, and automatically presenting individualized and situation-based information, providing incentives to stimulate customer motivation (Robra-Bissantz et al. 2003).

Push concepts in e-commerce are implemented in push systems and may be embedded in webshops (Robra-Bissantz & Zabel 2004). These systems are able to anticipate stoppages by monitoring and control components. They scan and track activities of the customer in the web shop. By comparing them with previously defined e-commerce processes the monitoring and control components may detect deviations, problems, and delays, and thereby situations, where the customer threatens to abort the interaction. A coordination component actively selects incentives for the customer to make him continue the interaction, on the basis of his specific situation and individual needs. The corresponding push activities are implemented by execution components.

The monitoring and control components of an e-commerce push system are transferable to a push system for Customer Governance. But instead of focusing on e-commerce processes the Customer Integration process has to be scrutinized. The component for an active coordination has to be dedicated to new mechanisms increasing the motivation of the customer as depicted in the following.

Active coordination and selection of incentives - influence on intrinsic motivation

Until now, it is unclear how intrinsic motivation evolves (Osterloh et al 2003). Thus, the factors manipulating intrinsic motivation can hardly be identified. However, recent research, based on open source communities, underlines basic conditions influencing intrinsic motivation. Benkler identifies two threads to motivation which could reduce the intrinsic benefits of participation, the failure of integration, where the individual sees its capabilities as being wasted, and an unilateral appropriation, where the individual contributor 'tries to make the common project reflect his or her values too much, thereby alienating other participants from the product of their joint effort.' (Benkler 2002: 67).

Furthermore, various studies point out that a self-determined selection of activities and tasks strengthens the operational readiness of co-workers (Osterloh et al. 2003; O'Reilly 2000). This suggests that co-production will thrive where projects have at least the following two characteristics (Benkler 2002). First, they must be modular. That is, they must be divisible into components, or modules enabling an independent production. Second, the granularity of the modules is important. Granularity refers to the sizes of the project's modules.

In Customer Integration approaches customers can hardly determine their own tasks over the whole project life cycle. Projects are often neither modular nor granular. The freedom to choose activities is very limited for the co-worker. Additionally, the project life cycle in the Customer Integration is driven by company-internal factors. Thus, customers' self-determination, which is one of the most important components for the emergence of intrinsic motivation, is very limited.

Active coordination and selection of incentives - (direct) coordination of extrinsic motivation

Company Selection: Recent research depicts that co-worker's extrinsic motivation in open source communities is based on ideologies, the need for a product or a product specification, fun, reputation, need for social integration, additional trainings and career concerns, and finally financial interests (see table 2).

Companies can control these motives actively by offering adequate incentives. For example, a company can satisfy a customer's motivation for career concerns by offering training courses or by certifying his co-work, which is maybe useful for his further career. Needs for personal success may be satisfied by arranging competitions between the customers. Social acknowledgment and integration is affected directly by the company's development of concepts such as 'Co-worker of the Month', or by designating 'Very Important Co-workers (VIC)'. Financial interests can be satisfied by money, shared ownership or similar financial participations.

Table 2. Categories of motivations for participating in innovation & product development communities (Shah 2003)

Motive	Example	Selected References
Need for Product	Participating in order to create, customize, or improve a product or feature	(Franke & Hippel 2003) (Raymond 1999)
Enjoyment, Desire to Create and Improve	Participating because one enjoys it; finds creating or improving software creative and interesting	(Gabrial & Goldman 2001); (Gelernter 1998)
Reputation and Status Within the Community	Participating in order to build or maintain reputation or status within the community	(Gabrial & Goldman 2001); (Raymond 1999)
Affiliation	Participating in order to socialize or spend time with like-minded individuals	(Haring 2002) (Raymond 1999)
Identity	Participating in order to reinforce or build a desired self-image	(Haring 2002)
Values, Ideology	Participating to promote specific ideals, e.g. the free-software philosophy	(Gabrial & Goldman 2001); (Raymond 1999)
Training: Learning, Reputation Outside The Community, Career Concerns	Participating to improve one's skills, with the belief that such improvement will lead to a better job or promotion	(Lakhani & Hippel 2000) (Lerner & Tirole 2000) (Raymond 1999)

However, throughout the direct Customer Governance, which does not consider any mediator, intrinsic motivation maybe displaced by providing wrong external incentives. Incentives effect different reactions of the co-worker, depending on their own motivational background and their actual stage concerning the collaboration. Therefore, general rules for the arrangement of a direct Customer Governance are not derivable. Another more assessable approach for a Customer Governance is based on innovative IC-Systems, as shown in the following.

Self Selection: Due to their complex motivation characteristics co-workers are rather comparable with top managers that are likewise driven by both intrinsic and different forms of extrinsic motivation. As far as the motivation of executives is concerned, there exists a successful and innovative governance model, which can be transferred to the needs of a Customer Integration. In this so called Cafeteria Model managers have the choice to select

incentives, which are most attractive to them, from a broad range of extra salaries, company cars or other gratifications (Hungenberg 1999).

As a side effect, Customer Cafeteria increases the level of self determination – not in the sense of a free choice of tasks and projects, but in the sense of the self determined selection of incentives – and thus, the intrinsic motivation is affected in a positive way.

From the perspective of ICT support, the Customer Cafeteria may be implemented as a configuration system (Rogoll & Piller 2002). Instead of enabling customers to customize their products, such a system provides several forms of incentives for a self selection. Configuration systems realize a variety support for individual composition of services. Furthermore, they can be configured as self-learning systems, which learn about the single customer preferences by tracking his behaviour. Consulting components, for example supported by a collaborative filtering, can be integrated.

By analysing customer preferences over a longer period, the concept of the Customer Cafeteria can be improved. This enables the differentiation among different types of co-workers in respect to their individual needs. Thus, an individualized ‘co-worker life cycle’ can be worked out, with the aim to strengthen the customers identification with the company. In the course of a longer relationship and experience within the collaboration on both sides, more demanding tasks and incentives can be offered to and covered by the customer.

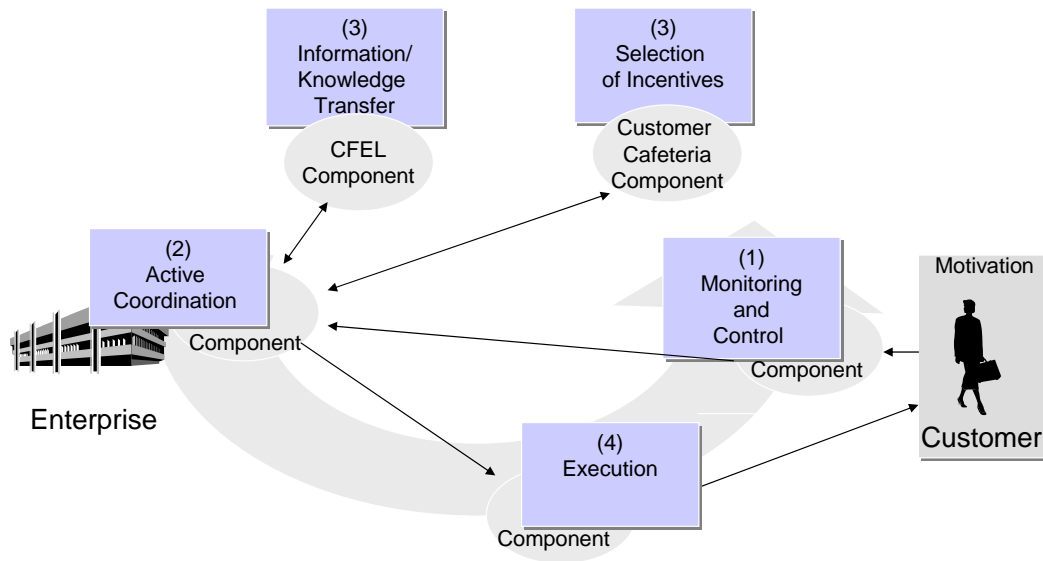
Knowledge transfer

By giving co-workers project- or company-specific information, co-workers will be well-prepared to fulfil their tasks in the sense of the company. Similar to common employees, co-workers are to be prepared for more sophisticated tasks in the course of a progressive integration by trainings and seminars. Concerning this matter, e-Learning approaches, especially Customer Focused e-learning (CFEL) (Montandon & Zentriegen 2003), are transferable concepts. Components of the individual and curricular structured e-learning (e-Lectures, Guided Tours, Drill & Practice, role-playing, etc.) as well as case and situation based Just in Time and Just in Case e-Learning approaches (electrical check lists, adaptive and intelligent assistance, web based trainings, etc.) are applicable (Back et al.2001).

ICT-framework for a direct co-worker governance

The tasks of a Customer Governance, derived from the considerations about the criticalness of some Customer Integration constellations, lead to solutions for the Customer Governance, which can be - to a large extend - based on existing ICT components. Since the Customer Integration generally is based on electronic connection and interaction between the customer and the company, an IC-System for the Customer Governance seems to be adequate.

Picture 2 depicts tasks and system components of a framework for co-worker governance: (1) In order to track the actual degree of commitment of the co-worker the monitoring and control component of a push system is applicable for use. (2) If these components detect a threatening abort, a message will be sent to the coordination component. (3) It is based on the Customer Cafeteria or a knowledge transfer component. (4) Incentives which are especially dedicated to the preferences of the co-worker and to the situation are provided by an execution component.



Picture 2. Tasks and system components in a coworker-governance-framework

Indirect governance via communities

Besides the method of direct control of a co-worker-governance, mechanisms exist which are based on self regulation by utilizing community processes. They are particularly suitable if co-workers are driven by the need for social integration or reputation in peer groups.

Analyses of interaction patterns in open source communities provide useful insights for the creation of concepts for an indirect Customer Governance via communities. For interaction, communication, transaction in online communities electronic media are intensively used. They may lead to electronically supported and self-regulating processes, which can for example be triggered by competition among members, by enforcing the possibility of social exclusion from the community, or by arranging peer review procedures. These are effective sources for disciplining and influencing single co-workers. However, the pre-requisite of social self-regulation processes via communities is that the co-workers identify themselves with their reference group (O'Reilly 2000; Hartel et al. 2003).

- (a) **Example 1 - Competition between the Community Members:** ICT supported methods to control communities can mostly be found in recommender systems (Geyer-Schulz et al. 2001) and are applicable for a Customer Governance. For example Amazon offers their customers web-supported 'topical lists', to classify other customers as 'friends and favourites'. Implicitly this method uses social exclusion and competition mechanisms.
- (b) **Example 2 - Social Integration in / Social Exclusion from the Community:** An appropriate method for social exclusion is realized in the Open Directory Project. The web site of the Open Directory Project relies on tens of thousands of volunteer editors to determine which links should be included in the directory. Quality relies on a peer review process based substantially on seniority as a volunteer and engagement. As acceptance as a volunteer requires application, like in many other projects, social integration respectively social exclusion is a feasible instrument for a governance of motivation. Additionally, failure and the violation of ethic rules lead to an exclusion. So called

‘flaming’ is another frequently applied method in open source communities, where volunteers are publicly denounced on electronic blackboards (Kollock & Smith 1996).

(c) Example 3 - Peer Reviews: The following four most frequently implemented peer review approaches in electronic communities can easily be utilized in Customer Integration:

- (1) The *hierarchically managed review procedure* is often implemented in large open source projects as in Linux or Apache. Reviews take place by well-acknowledged project co-ordinators.
- (2) A very elaborate mechanism for *peer production of relevance and accreditation* is implemented in the knowledge community Slashdot (Benkler 2002). In a Section called ‘News for Nerds’, users comment on initial submissions that cover a variety of technology-related topics. The community has implemented an automated moderation system, where moderators rate the comments using a drop-down-list of ratings. Moderators are automatically selected from the pool of users, according to several criteria (shlashdot 2005). One of the most innovative criteria is the positive ‘karma’, which again reflects the ratings of the user’s comments in the past.
- (3) A *norm based social organization* is implemented in a highly elaborated way by Wikipedia’s objectivity norms which are special methods of social control (Lattemann & Köhler 2005). Wikipedia involves about two thousand volunteers who are collaborating to write an encyclopaedia.
- (4) *The aggregation of individuals* independently scouring their information is used by NASA. The NASA utilizes ‘customer integration’ to save costs of mapping Mars craters. They use automated collation for markings and averaging out of deviations.

Thus, to realize an indirect Customer Governance, a company may initialize a community with social structures at first. Additionally the community must be equipped with the mentioned instruments and concepts to put self-control mechanisms into action. Important elements are electronic black boards, IC-Systems for a reciprocal evaluation among co-workers, and electronic forums. Forums may be used to initiate a general discussion about co-operation standards that have to be accepted by the community members. A black board may be used for an effective ‘flaming’. Due to a permanent reciprocal evaluation, acknowledged ‘lead-co-workers’ may emerge, who then may act as co-ordinators or moderators in the community. Evaluation and moderation again need sophisticated IC-Systems, which may be similar to those used in Co-worker Governance.

Synopses and further proceeding

At this stage the integration of customers into the value creation process is an established strategy in business, although it is not often called Customer Integration. With the growing electronic integration among companies and customers, the scope and the importance of Customer Integration rise. Customer Integration serves for rationalization purposes and offers opportunities for differentiation on companies’ side.

However, the realization of sophisticated Customer Integration projects needs a Customer Governance. The integration of customers in essential parts of the value creation goes along with the necessity for an appropriate and correct fulfilment of the co-workers’ tasks. Thus, their monitoring, coordination, and control become increasingly important. Deducted from critical forms of Customer Integration, this paper shows different tasks and concepts of a

Customer Governance. It also underlines that these tasks and concepts can be supported by the appropriate use of IC-Systems. Starting with these insights, further work needs to concentrate on improving and validating the concepts of Customer Governance, e. g. by analysing the specific motivation of co-workers, and on building an ICT based prototype (e.g. cafeteria model and push system) for a Customer Governance. The upcoming experimental research will be based on case studies in real customer integration environments.

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