An Innovation-Focused Client-Vendor Relationship Model for IT Outsourcing

Completed Research Paper

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Abstract

While cost-reduction is the primary goal of most information technology outsourcing projects, the issue of innovation generation in such projects receives increasing attention. While past research acknowledges the link between quality of client-vendor relationships and innovation generation, a model of the factors composing it is still missing. In this study, we created such a model, comprising relevant factors from past research as well as expert experience from client and vendor perspective. It can be applied by practitioners to assess the innovation generation potential of their client-vendor relationships, while the identified factors can act as action items. Future research should use our model as a starting point to study the single factors, detect dependencies between them and find levers how to improve their influence on innovation generation.

Keywords: Innovation, Information Technology Outsourcing, Client Vendor Relationship, Model Development, Qualitative Research

Introduction

Information Technology Outsourcing (ITO) is a topic of great importance, affecting wide parts of the economy. According to a recent study by Gartner (2015), the revenue of the global ITO market in 2017 will reach 303 billion USD, with an additional growth rate of 5.9% for 2018. The first outsourcing agreements were started with the goal of reducing costs by delegating IT tasks to a supplier, who can perform the services cheaper using economies of scale and his superior competences (Oshri et al. 2015). Recently, there is a trend that client firms seek to access these competences to achieve added value and competition advantages from outsourcing (Oshri et al. 2015). They try to generate innovation, which is facilitated by the outsourcing relationship. This leads to another goal of ITO, which has to be kept in balance with the original target of delivering cost-efficient IT services (Boehm et al. 2014). This phenomenon was only barely investigated by existing research (Boehm et al. 2014; Oshri et al. 2015).

There is a broad body of knowledge about client-vendor relationships (CVR) and how to improve them (e.g. Jae-Nam Lee and Young-Gul Kim 1999; Kern and Willcocks 2000, 2002; Klepper 1995). The models created by these studies have recently been consolidated to an *ITO client-vendor relationship quality model*, comprising the constituent parts of client-vendor relationship quality in ITO (anonymous for review). It divides the influencing factors into the dimensions of contextual quality, agreement quality, governance quality, interaction quality and behavioral quality.

This paper is intended to be a follow-up of this research, searching for the constituent parts of CVRs, which influence the achievement of the innovation generation goal. Therefore, this paper seeks to answer the following research question: *Which distinct factors of a client-vendor relationship affect the generation of innovation in information technology outsourcing?*

To answer this question, an in-depth literature review and a series of semi-structured interviews were conducted. The participants were experts involved with innovation generation in various ITO projects, from the vendor as well as the client perspective We identified the factors affecting innovation generation in ITO and structured them in a model inspired by the ITO client-vendor relationship quality model. The two models can be applied by practitioners simultaneously to foster the generation of innovation in their ITO projects. Future researchers may use it for further empirical validation, as basis for a deeper exploration of the included factors and to find gaps in the existing research on the topic.

The remainder of this paper is structured as follows. In the next section, we create a common understanding of client-vendor relationships and innovation in within those. The section 'research approach' explains the methodology, which was used to achieve the findings covered in the results section. We discuss these findings and analyze them in terms of contribution to research, practical relevance and future research directions. We are closing the paper with a conclusion.

Theoretical Background

Client-Vendor Relationship in Information Technology Outsourcing

As we want to investigate *ITO client-vendor relationships (CVR)*, it is worth the effort to inspect the definition by Goles and Chin (2005, p. 49): "An ongoing, long-term linkage between an outsourcing vendor and customer arising from a contractual agreement to provide one or more comprehensive IT activities, processes or services with the understanding that the benefits attained by each firm are at least in part dependent on the other." This implies, that there is one CVR comprising one or many outsourcing agreements. Even if the agreements are not interconnected in terms of execution, they still influence each other via their common CVR (Goles and Chin 2005). Consequently, the CVR is acknowledged as a crucial factor for outsourcing success by researchers as well as practitioners (anonymous for review).

Client-Vendor Relationship Quality in Information Technology Outsourcing

Both parties can increase their projects' success chances by improving their *ITO client-vendor relationship quality*. This is an abstract concept that "captures the salient aspects related to a successful relationship" (anonymous for review).

In order to develop a better understanding of this abstract concept, the *ITO Client-Vendor Relationship Quality Model* was developed in a recent study (anonymous for review). They conducted an in-depth review of the existing literature on the topic and combined it with up-to-date practice knowledge they gathered from expert interviews. Their analysis resulted in 111 distinct factors. To structure them, the

model represents CVR quality as a combination of five dimensions, which are again divided into multiple categories containing the single factors. Figure 1 provides an overview of the model.

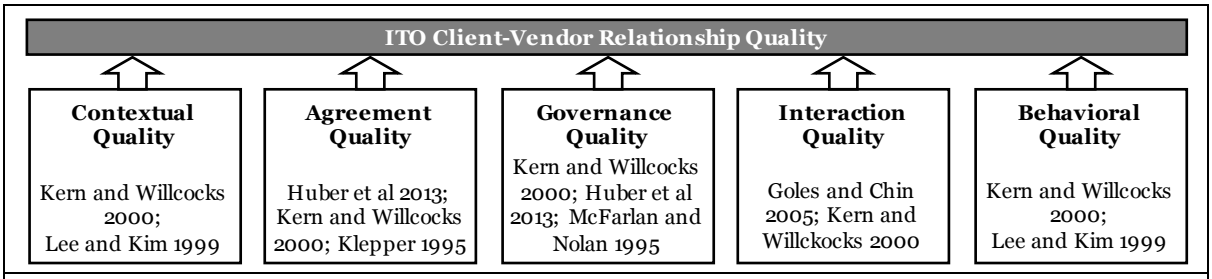

Figure 1. ITO Client-Vendor Relationship Quality Model

The dimension *contextual quality* represents the antecedent conditions forming the *context* of the CVR (Kern and Willcocks 2000). It encapsulates the expectations (IT) managers have for the outsourcing agreement (e.g. financial, business, technical and political expectations) (Kern and Willcocks 2000; Lacity and Hirschheim 1994). *Agreement quality* summarizes, how different agreements between client and vendor, either formal in a written contract or informal in an unwritten contract, influence CVR quality. The *governance quality* dimension covers all aspects regarding the managements on both sides of the CVR, including structure, processes and management style of the relationship (anonymous for review). *Interaction quality* refers to the style and processes used for client-vendor interactions, e.g. the degree of information exchange and clearly defined escalation procedures (anonymous for review). The quality of interactions also depends on the behavior of the involved people and organizations (Kern and Willcocks 2000). These aspects are represented in the final dimension, *behavioral quality*, which includes qualities like honesty, collaboration and commitment (anonymous for review).

Client and vendor managers can use the model to measure the their CVR quality. If a category needs improvement, its factors can serve as action items (anonymous for review). However, since the model is broad and mostly descriptive, it may be problematic to deduct detailed action plans. Hence, the model was designed to be extendable. In this study, we seek to extend it for the issue of innovation generation.

Information Technology Innovation in Outsourcing Engagements

An *innovation* is more than a new idea: it has to be implemented into an organization's products, services, and/or processes in order to generate added value for the organization and to strengthen its market competitiveness (Loch et al. 2006). This definition indicates that innovations do not need to be new for the entire world, only for the considered environment (Weeks and Feeny 2008). Accordingly, *IT innovation*s are defined as innovations related to IT (Patrakosol and Olson 2007).

The generation of innovation within outsourcing agreements is "dependent on certain attributes" between client and vendor, "and in the relationship between them" (Weeks and Feeny 2008, p. 145). Consequently, we need to combine the concepts of client-vendor relationships and innovations to answer our research question. The resulting concept is called *IT innovation outsourcing* and is defined by Boehm et al. as "the external purchase of IT products and/or services with the additional or even sole goal of enhancing the organization's innovativeness" (Boehm et al. 2014, p. 3246).

Quinn (2000) argues, that today's innovation problems (in general, not only in IT) are too complex to solve them effectively individually and organizations should therefore engage in innovation outsourcing. Hereby they can profit from access to broad networks of knowledge and specialists, which are very limited resources and expensive to provide otherwise (Quinn 2000). Oshri et al. (2015) showed that the choice of contract type affects innovation generation: for instance, joint-venture contracts foster innovation, while fixed-price contracts as well as time and materials contracts have a negative effect.

Studies report that client firms struggle to achieve innovations through outsourcing engagements, especially strategic innovations turn out to be difficult to realize (Oshri et al. 2015). From the research perspective, Oshri et al. (2011, p. 3) found a lack of conceptualization of factors affecting innovation in outsourcing. On the other hand, there is proof for a "positive link between high-quality CVRs and the likelihood of achieving strategic innovation". This encourages us to build to build an innovation-focused model on top of the ITO client-vendor relationship quality model, that helps research and practitioners to understand the influence of CVRs for innovation generation as well as to enhance it.

Research Approach

In order to tackle the lack of an innovation-focused client-vendor relationship model, we applied a research method, which follows a research approach similar to Seidel et al. (2013). This qualitative research design consists of the two steps (1) data collection, and (2) data analysis, which will result towards an innovation-focused client-vendor relationship model.

Data Collection

Our data collection process is twofold: (a) we conducted a systematic literature review to identify innovation-promoting factors and (b) we conducted semi-structured interviews with client and vendor experts in ITO to verify existing and identify new innovation-promoting factors.

As our baseline for our study, we conducted a concept-driven systematic literature review based on Webster and Watson (2002). Our review included articles from 19 peer-reviewed journals in the years 2001 to 2011. We reviewed each publication by reading their titles and abstracts. We read those articles in detail, which deal with innovation, IT innovation, or knowledge sharing. After the forward and backward search, we identified 13 articles, which contain 33 innovation-promoting factors.

In the next step, we defined our requirements for the interview partners regarding our research objective and research question. Our interview partners must have experiences with ITO projects and they should belong to one part of a relationship, either client or vendor. Based on our established contacts to practice partners, we identified 16 interview partners. All of them fulfil the requirements. The position and role of the interview partners varied between analysts and directors of the company. Table 1 provides an overview of all interview partners including their position and role, their working experience and the number of projects they worked for. The interviews lasted between 1 and 1.5 hours. They have been tape-recorded, anonymized, and transcribed.

ID	Current Position	Experience	Projects
1	Manager (V)	6	9
2	Analyst (V)	1	2
3	Senior Manager (V)	1	4
4	Manager (V)	8	4
5	Divisional Director (C)	20	6
6	Manager (V)	7	2
7	Principal Project Manager (V)	20	4
8	Manager (V)	7	5
9	Project Manager (V)	20	12
10	Consultant (V)	3	3
11	Technology Solution Architect (V)	15	6
12	Director (V)	12	10
13	Service Manager (C)	9	20
14	Manager (V)	5	2
15	Manager (V)	6.5	3
16	Director (V)	16	10

Legend: *Experience* = Years of professional experience | *Projects* = # of ITO projects participated | C = Client | V = Vendor

Table 1. Interview Partners

All interviews were based on a pre-defined guideline following five consecutive steps. In step 1, we started with a brief introduction of the research project and general information about the interview. In step 2, we explained definitions as well as used concepts to reach a same understanding. Step 3 marks the beginning of the main part of the interview. We described a fictional situation from a project and asked for their opinion about each innovation-promoting factor for verification. The interview partner described their view about each factor and pertained the relevance of the factors by rating them on a 7-point Likert scale (total agreement – total disagreement). Furthermore, we asked each interview partner to explain their relevance rating where possible. In Step 4 we asked the interview partners to propose additional innovation-promoting factors based on their project experience. In step 5, the interview was closed with a brief investigation about the participant's background as well as with a general debriefing explaining the next steps of the research project.

Data Analysis

Our data analysis process consists of three steps including open, axial, and selective coding. The open coding started with two data sets retrieved from the literature review as well as from the interviews. We aimed to identify relevant factors, which foster the innovation generation in ITO engagements for both client and vendor. In the structured literature review we identified a set of 34 innovation-promoting factors from 13 articles.

The second step of the data analysis process is the axial coding. We aimed to assign each innovation-promoting factor to a category. For example, the axial coding resulted in the factors *top management support* and *proactivity* being assigned to the category *commitment*.

The third step of the data analysis is the selective coding, which involves the assignment of the categories to dimensions, which compose the overall model. We decided to adopt the dimensions of the ITO client-vendor relationship quality model to achieve a high interoperability between this model and ours. For example, the category *client and vendor maturity* was assigned to the dimension *contextual quality*.

Afterwards, we analyzed the interviews to verify all factors found in the literature and the additional factors proposed by the interview partners. We used the descriptive coding based on Miles et al. (2013) to identify new factors. Three researchers coded the complete data set independently of each other to ensure a high intercoder reliability. We consolidated the new factors to gain a redundancy-free list of innovation factors. The interviews resulted in four additional innovation-promoting factors. We did not identify additional factors during the last nine interviews. Hence, we presume that we achieved result saturation (Guest et al. 2006). We applied axial coding (see above), resulting in three of the factors being assigned to categories of the dimensions in scope. We used a literature review on the ITO client-vendor relationship concept as our theoretical lens for the coding and analysis process in the axial and selective coding stage (anonymous for review).

Furthermore, we developed corresponding propositions for each category of our innovation-focused client-vendor relationship model. Finally, the resulting model contains five dimensions, 12 categories with one proposition each and 38 factors in total.

Results

In this chapter, we present our *Model of Innovation-fostering Factors in ITO Client-Vendor Relationships*. For each dimension, we provide a table with all factors, their definitions and category assignments. For the factors extracted from existing literature, we added references and their average scores on the 7-point Likert scale, where 1 stands for total agreement and 7 equals total disagreement. If a factor was extracted from the open questioning, it does not have an average score and is tagged with the interview ID (e.g. '[ID1]', see table 1 for the participant list). Additionally, we look the most interesting factors in detail and make propositions based on our observations for each category.

Contextual Quality

For the dimension of contextual quality, we identified 13 factors, all of which were gathered from the literature review (table 2).

We assigned 6 of the factors to the category **client and vendor maturity**, which is about organizational structures, abilities and experiences needed for a successful outsourcing relationship, on the vendor side as well as the client side (anonymous for review). *Network and collaboration of the vendor* is the factor with the highest score (1.9): Most participants confirmed it by quoting the larger pool of knowledge and experience, the vendor can use if he is part of a network. [e.g. ID12]. However, two managers [ID1, ID6] pointed out, that a vendor cannot easily transfer innovations between clients, since they often have non-disclosure agreements or similar contractual obligations.

The factor *existence of an innovation outsourcing strategy* has a confirmative overall score of 2.3, however, it caused some controversy: While half of participants rated it as "strongly agree", the remaining ratings span from 2 up to 7. Some experts, who voted "strongly agree", explained, that the innovational strength of projects is significantly higher, if it is backed up with an innovation-promoting corporate-wide strategy [ID1, ID2, ID4, ID11]. Contrary, one manager [ID9] holds the opinion, that innovation goals do not emerge from the corporate strategy and are instead determined by the departments. He rated the factor as "strongly disagree". Based on these findings, we propose:

PCQ.1 *The higher the innovation-related client and vendor maturity is, the higher is the innovation generation potential in the ITO client-vendor relationship regarding contextual quality.*

The term organizational culture refers to "the pattern of shared values and beliefs" of individuals in an organization, which provides norms for behavior (Deshpande and Webster Jr. 1989, p. 4). In theory, **cultural similarity** between client and vendor should improve CVR quality (Jae-Nam Lee and Young-Gul Kim 1999). *Compatibility of corporate cultures* is the only factor we identified for this category. Nevertheless, the participants highlighted the crucial influence of this factor on innovation generation by assigning it a score of 1.7. One participant additionally mentioned the general importance of a corporate culture, which is open for innovation [ID8]. Therefore, we suggest:

PCQ.2 *The higher the compatibility of corporate cultures is, the higher is the innovation generation potential in the ITO client-vendor relationship regarding contextual quality.*

Category	Factor	Description	References	Sc.
Client and Vendor Maturity	Network and collaboration of the vendor	The greater the degree of the vendor's connections is, the greater is its ability to innovate.	(Weeks and Feeny 2008)	**1.9**
	Existence of an innovation out-sourcing strategy	There is a need for a dedicated innovation outsourcing strategy, which is derived from the corporate strategy.	(Cui and Loch 2011)	**2.3**
	Tendency to innovate	The vendor's tendency to appreciate and stimulate innovation generation	(Quinn 2000)	**2.3**
	Experience in IT Innovation Outsourcing	With growing experience, the client develops a concept how to measure innovation and how to interact effectively with its vendors	(Stanko and Calantone 2011)	**2.4**
	Complementarity of the knowledge	Complimentary knowledge of the client's and the vendor's employees results in greater cooperation and therefore fosters innovation.	(Bandyopadhyay and Pathak 2007)	**2.7**
	Focus on innovation	Clear focus on innovation, rather than costs, within the ITO projects.	(Willcocks et al. 2011)	**3.3**
Cultural Similarity	Compatibility of corporate cultures	A culture, which is "focused on short-term gain and cost-reduction, can be very limiting in terms of what can be achieved by either party".	(Whitley and Willcocks 2011, p. 100)	**1.7**
Environ-ment	Communication bet-ween business and IT	Improves the IT's understanding, which innovations are desired by the departments.	(Westerman and Curley 2008)	**2.1**
	Strategic portfolio planning	Clear portfolio planning of IT innovations and management of the client's investments	(Cui and Loch 2011)	**2.1**
	Geographical distance	The degree of interaction and understanding between client and vendor tends to increase with a decline in geographical distance.	(Cui and Loch 2011; Kimble et al. 2010)	**3.2**
	Technological compatibility	The degree of interaction and understanding between client and vendor tends to increase with a increase in technological compatibility.	(Cui and Loch 2011; Kimble et al. 2010)	**3.2**
	IT's contribution to organizational performance	Perception of the IT as a department that contributes to the overall organizational performance within the client company and not just as a cost center.	(Westerman and Curley 2008)	**3.4**
	Company size	There is a positive correlation between the vendor's company size and innovativeness.	(Patrakosol and Olson 2007)	**5.3**
Legend: *Sc.* = Ranking on a 7-point Likert scale (1: total agreement – 7: total disagreement)				

Table 2. Factors of Contextual Quality

The category **environment** is a composition of factors regarding the client-vendor relationship background, the market environment and processes as well as the outsourced IT services themselves (anonymous for review). Our first factor in scope is *communication between business and IT*. Every participant confirmed the influence of this factor on innovation generation, there was no rating lower than 3. This resulted in a total score of 2.1 and a standard deviation of only 0.85. A consultant [ID10] reasoned his total agreement with the argument that IT is not for self-purpose and should therefore have plenty of communication with the business side about their wishes and demands.

Equally high rated (score: 2.1) is the factor *strategic portfolio planning*. 15 out of 16 participants confirmed the influence of this factor, for very different reasons, including extension of the focus beyond costs [ID1], creation of synergies [ID2] and avoidance of innovation in areas, where they are not needed [ID10]. Two participants [ID4, ID11] added, that the portfolio planning needs to include a budget allocation. Nevertheless, the participants knew only about few examples, where the strategic portfolio planning has been executed effectively.

Company size, the factor with the globally lowest score of the model (5.3), is also part of the environment category. This is the only factor with a rejecting total score. The participants largely agreed about this: The standard deviation is only 1.25, 10 out of 16 participants assigned their most disagreeing value for all factors and only one [ID13] rated it with a value smaller than 4. He reasoned his partial confirmation with the larger span of clients and technologies larger vendors work with [ID13, also mentioned by ID14]. Multiple participants [ID1, ID2, ID6] stated that the opposite is true (smaller companies are more innovative than larger ones), as smaller companies are more flexible and they can specialize in one market niche. Others [ID8, ID9, ID12] argued that the optimal vendor size lies in between, since head monopolies should also be avoided and to make sure, that the vendor company is stable. However, since the other five factors have been confirmed, we can still propose:

PCQ.3 *The more innovation-fostering the environment is, the higher is the innovation generation potential in the ITO client-vendor relationship regarding contextual quality.*

Agreement Quality

This dimension encapsulates seven factors, four of which resulted from the literature review, while three were suggested during the interviews. Table 3 provides an overview of the factors in detail.

Category	Factor	Description	References	Sc.
Suitability of the Written Contract	New forms of contract setting	Contract settings, which "have incentives for sharing knowledge and best practices across all the parties", instead of "structuring around costs and services"	(Weeks and Feeny 2008; Whitley and Willcocks 2011, p. 100)	**2.6**
	Contract-based risk and rent sharing	A contractual tool allowing risks and rewards of innovation- focused outsourcing projects to be shared and regulated among the parties involved. This leads to a successful collaborative relationship.	(Whitley and Willcocks 2011; Willcocks et al. 2011; Westerman and Curley 2008)	**2.6**
	Compatible innovation roadmap	The "innovation roadmap" defines the innovation goals and explains how to reach them (e.g. in which technologies to invest).	(Whitley and Willcocks 2011)	**3.1**
	Existence of an innovation agenda	Contractual agreement between client and vendor which defines how innovation will be generated (e.g. meeting guidelines).	Interview [ID1]	**new**
	Use of an evaluation catalogue	The catalogue, on which basis the vendor is evaluated should include criteria on the vendor's innovativeness.	Interview [ID1]	**new**
Unwritten Contract	Development of a common vision	A common vision regarding innovation generation between client and vendor creates an innovation-promoting atmosphere among the employees.	(Quinn 2000)	**2.1**
	Win-win situation	Both client and vendor should mutually benefit from the ITO arrangement. In addition to the written contract, this avoids imbalances between both parties throughout the entire ITO project.	Interview [ID7]	**new**

Table 3. Factors of Agreement Quality

As the definition of CVR says, the foundation for any CVR is a contractual agreement (Goles and Chin 2005). It specifies aspects such as exchange of goods and services, financial transactions, service levels, staffing and dispute resolution procedures (Goles and Chin 2005; Kern and Willcocks 2000). There are various contract types to choose from (e.g. fee-for-service contracts, flexible pricing contracts, strategic alliances, etc.) (Lacity and Willcocks 1998). In the category **suitability of the written contract**, we comprised, how different written contract components influence innovation generation in ITO.

From Weeks and Feeny (2008) as well as Whitley and Willcocks (2011) we acquired the factor *new forms of contract setting*. The participants generally confirmed it (score: 2.3), however, we observed a high spread of ratings. A consultant [ID10] stated, that too detailed specifications obstruct innovating. A rejecting opinion was, that conventional contracts are sufficient as they offer plenty of possibilities for adjustment [ID8]. Nevertheless, 10 participants rated this factor with 1 or 2, since they acknowledge the innovation-promoting effects of contractual incentives on the vendor (e.g. monetary incentives).

While the positive effect of *contract-based risk and rent sharing* was mostly confirmed, four participants see difficulties in measuring innovation generation [e.g. ID9]. Five interviewees considered this factor as special case of *new forms of contract setting* [e.g. ID1]. This may be the reason for their similar total scores (2.6) and standard deviations (both around 1.5).

For this category, we identified two new factors during open questioning, *existence of an innovation agenda* is the first one. The manager, who added the factor, [ID1] defined it as contract component containing operative guidelines, which both client and vendor must apply, e.g. meeting guidelines. The same manager [ID1] extended our list with the factor *use of an evaluation catalogue*. He refers to the catalogue, on which basis the vendor is evaluated. It should include criteria on the innovativeness of the vendor [ID1]. According to him, they should make up at least 10% of the final evaluation score [ID1]. Summarizing the influence of these factors, we suggest:

PAQ.1 *The more suitable the written contract is, the higher is the innovation generation potential in the ITO client-vendor relationship regarding agreement quality.*

It is neither beneficial nor possible "to address all facets of a relationship in a formal, written contract" (Jin Kim et al. 2013, p. 530). Furthermore, it comes with a great loss of flexibility (Chengxun Tan and Siew Kien Sia 2006). Hence, in every CVR exists an **unwritten contract** (Koh et al. 2004), which is defined as "the contractual parties' mental beliefs and expectations about their mutual obligations, which are perceived at the individual level" (Jin Kim et al. 2013, p. 530). In a CVR, both parties have *expectations* of the behavior of the other (Klepper 1995, p. 252). Their fulfilment is based on trust

(Klepper 1995). If there are patterns of expected behavior, they are called *norms* (Klepper 1995). Norms and expectations can be transferred from one CVR to another (Klepper 1995).

The participants confirmed the importance of the *development of a common vision* (score: 2.1). One manager added, that the common vision and the knowledge of long-term goals encourages self-initiated innovating by employees [ID4]. A department manager [ID2] mentioned, that a common vision regarding innovation requires cultural similarity between client and vendor. Another manager [ID1] sees the common vision as a starting point for the aforementioned innovation agenda.

One project manager [ID7] came up with a new factor regarding the unwritten contract. He stated, that there must be a *win-win situation,* in which both the client and the vendor mutually benefit from the outsourcing arrangement [ID7]. Projects, in which the client pays to little, can never be as innovative [ID7]. To sum up, we propose:

PAQ.2 *The higher the adherence to specific norms and expectations composing the unwritten contract is, the higher is the innovation generation potential in the ITO CVR regarding agreement quality.*

Governance Quality

Governance quality consists of 11 factors, which were all extracted from the literature review (table 4). The category **structure** describes aspects related to the governance structure of an ITO engagement. The most important factors inside this category is *establish interfirm and multifunctional team*. Multiple interview partners [ID8, ID1, ID4] confirmed that such teams have a positive effect on the generation of innovation in ITO projects, leading to a confirmative score of 1.9.

Category	Factor	Description	References	Sc.
Structure	Establishment of interfirm and multifunctional teams	Teams consisting of client and provider staff, as well as including individuals working in different functional areas, will tend to generate more innovations.	(Whitley and Willcocks 2011)	**1.9**
	Provision of inno-vation-enabling infrastructure	The provision of certain infrastructure, e.g. innovation centers, can have a positive impact on innovativeness within ITO projects.	(Quinn 2000; Westerman and Curley 2008)	**2.4**
	Internal masters of processes	Internal employees with specific knowledge and expertise of the company's processes, who are specialized in identifying the best vendors.	(Quinn 2000)	**2.5**
	Use of brokers	Mediators between the client and the provider, who translate, coordinate and align the different perspectives and knowledge.	(Kimble et al. 2010)	**3.0**
	Use of boundary objects	Objects such as technologies or a set of rules, which serve as common agreements between client and vendor and allow for coordination.	(Kimble et al. 2010)	**3.3**
	Agreed guidelines of interaction	Definition of formal interaction guidelines, which facilitate the knowledge exchange between client and vendor.	(Bandyopadhyay and Pathak 2007)	**3.7**
Processes	Project closure and vendor evaluation	Evaluation of the provider at the end of the ITO project and identification of areas for improvement.	(Boehm et al. 2014)	**2.1**
	Measurement and tracking of IT innovations	Measuring, tracking and publishing of innovations, fosters continuous improvement, supports sustained innovation, and encourages recognition of innovation.	(Westerman and Curley 2008)	**2.2**
	Strategic knowledge management	Utilization of strategic knowledge management systems, to gain, generate and interchange knowledge and apply it for strategic decisions.	(López-Nicolás and Meroño-Cerdán 2011)	**3.3**
	Effective conflict management	Implementation of flexible conflict escalation and resolution processes to strengthen trust and learning within the relationship.	(Cui and Loch 2011; Pantelia and Sockalingam 2005)	**3.9**
Methods and Tools	Innovation trainings	Employee coaching of tools that facilitate innovation generation and foster creativity.	(Westerman and Curley 2008)	**2.4**

Table 4. Factors of Governance Quality

Furthermore, *provision of innovation-enabling infrastructure* was rated confirmative with a score of 2.4: All team members of an ITO project could profit from infrastructure support. For example, one participant [ID1] mentioned that such platforms support the communication between the team members to improve the team performance. Moreover, it is possible to generate button-up innovations through direct communication flows and transfer between team members [ID1]. Another opportunity to improve the project communication by using project structure elements is the *usage of brokers*: Brokers help to connect different team members and share their knowledge across the whole team. An

innovation-focused broker could increase the transparency of work packages, which are related to new, innovative services, processes or products, the same participant added [ID1]. Hence, we conclude:

PGQ1. *The more structured the governance of the ITO engagement is, the higher is the innovation generation potential in the ITO client-vendor relationship regarding governance quality.*

In term of governance **processes**, the participants rated *measurement and tracking of IT innovations* as most important. In practice, there exists the statement 'you can only manage what you measure'. Although our study participants support this statement (score: 2.2), there are ideas for a further use of measurement and tracking activities. One participants pointed out that the measurement and tracking could be an incentive for running several ITO projects in parallel and the project manager wants to measure the innovation performance in a qualitative and quantitative way. Based on rankings the project manager could tell which projects are particular innovative compared to others [ID1].

An *effective conflict management* is an essential governance process to avoid unnecessary discussions about any project decisions, but more as a general factor in ITO project without any unique innovation relationship. Several participants see this factor for a prerequisite for a working sourcing project but without having impact on innovations. [ID5, ID10, ID12]. Therefore, we define:

PGQ2. *The more structured governance processes are applied in ITO engagements, the higher is the innovation generation potential in the ITO client-vendor relationship regarding governance quality.*

The third category is about **methods and tools**, which gained importance in the project management literature (Milosevic and Patanakul 2005; Munns and Bjeirmi 1996). The participants agreed that *innovation trainings* improve the general attitude towards innovation [ID2]. Especially the diffusion of innovation in projects and throughout the organization is important (Rogers 1983). Hence, we suggest:

PGQ3. *The more innovation trainings are used as a method or tool in ITO engagements, the higher is the innovation generation potential in the ITO CVR regarding governance quality.*

Interaction Quality

Although the interactions between the client and vendor have been well investigated in the past literature (Goles and Chin 2005; Kern and Willcocks 2000), we identified only 2 innovation-promoting factors making a difference between the general and the innovation-focused view on the CVR (table 5).

Category	Factor	Description	References	Sc.
Coope-ration	Flexible and adaptive relationship	Allows the employees to think and act out of the box. The client can set goals for the vendor but should not determine how to reach them.	(Willcocks et al. 2011)	**2.1**
	Continuous information sharing through all levels	Information sharing throughout 3 levels: (1) top management (for strategy development/ refinement), (2) employees, who depend on the relationship's success, and (3) operational level.	(Quinn 2000)	**2.5**

Table 5. Factors of Interaction Quality

The category of **cooperation** describes aspects related to the management style of both client and vendor organization. Both its factors have been assessed as highly important in regards to a successful ITO CVR. The *flexible and adaptive relationship* seems to be closely connected to innovations as one interview partner pointed out [ID 10]. But besides its usage for the generation of innovation, one of our participants mentioned the more general usage of the flexible and adaptive relationship [ID7].

Continuous information sharing through all levels has been ranked mostly as highly important or as slightly important. But the information sharing depends on the management style of the project managers. One participant pointed out that managers do not need to know everything, which have been shared on lower management levels [ID8]. Therefore, we define:

PIQ1. *The more client and vendor cooperate by information sharing as well as flexible and adaptive acting, the higher is the innovation generation potential in the ITO CVR regarding interaction quality.*

Behavioral Quality

Our final dimension *behavioral quality* includes 5 factors, assigned to 3 distinctive categories (table 6).

Category	Factor	Description	References	Sc.
Trust	High level of trust	Innovation outsourcing projects are much more disposed to risk than clearly defined cost-focused outsourcing projects, since the outcome is less specific. Therefore, a high level of trust is a prerequisite for collaborative innovation.	(Bandyopadhyay and Pathak 2007; Pantelia and Sockalingam 2005; Park et al. 2011; Whitley and Willcocks 2011)	**1.5**
Client Behavior	Capacity to absorb knowledge	The ability to recognize the value of new external information, process it, and apply it.	(Weeks and Feeny 2008)	**1.6**
	Client's strong leadership	The ability to handle adaptive challenges, which require changing values, behaviors, beliefs, relationships, and approaches to work.	(Willcocks et al. 2011)	**3.6**
Commit-ment	Top management support	Top management support on the client's side during the entire project's life cycle.	(Weeks and Feeny 2008; Westerman and Curley 2008)	**1.9**
	Proactivity	A proactive vendor can anticipate changes in the client's business and propose new ideas.	(Whitley and Willcocks 2011)	**1.9**

Table 6. Factors of Behavioral Quality

The first category **trust** includes the factor *high level of trust*, which is the highest-ranked innovation-promoting factor in the whole model. Our participants mentioned two situations in which the level of trust is especially important: (a) innovations will trigger major changes in the organization and (b) the collaboration of client and vendor is based on differences in cultural patterns. A high level of trust is a critical factor for generating innovation in ITO engagements. One participant mentioned that customers must trust consultants because they dig in deep in the processes or the organization and the customer must trust them that this is the correct approach [ID1]. Hence, we suggest:

PBQ1. *The more honest the behavior of both client and vendor is, the higher is the innovation generation potential in the ITO client-vendor relationship regarding behavioral quality.*

The **client behavior** describes behavior aspects of the client in the client-vendor relationship. In most cases, the innovations are intended for the client and therefore the *capacity to absorb knowledge* from the vendor is one of the key aspects. Using existing knowledge from external sources to further develop innovations have been investigated by other studies. Our participants rated this factors as one of the top ones as well. Moreover, it was mentioned that both client and vendor need to be able to absorb knowledge to generate innovations [ID1].

The *client's strong leadership* have been rated indifferent and our participants tells us that this factor has no impact on the generation of innovation. Hence, based on these findings, we propose:

PBQ2. *The more suitable the client behavior and especially the capacity to absorb knowledge is, the higher is the innovation generation potential in the ITO CVR regarding behavioral quality.*

Finally, the category **commitment** based on Kern and Willcocks (2000) describes the effort of both client and vendor to participate in the project. Innovations are seen as something new and the more a vendor proposes new ideas about any processes, services or products without any requests, the more ideas can be developed into potential innovations. One participant [ID3] mentioned that *proactivity* is closely related to flexibility. Both attributes help both client and vendor to think outside the box [ID3]. The focus should stick on the development of new ideas instead of just maintaining the status-quo.

The *top management support* is another factor, which enables ITO projects being innovative. According to our interviews, most ITO projects have a focus on cost reduction instead of innovation topics. The *top management supports* selected projects to develop innovations in the long run [ID1]. Another aspect which profits from a top management support is the standing of the project in an organization. There are projects with an innovative focus, which differentiate from other projects. Project members need the support to further work in these projects with an open-minded view and without any negative influences from outside the project. Based on our findings, we conclude:

PBQ3. *The higher the commitment of both client and vendor is, the higher is the innovation generation potential in the ITO client-vendor relationship regarding behavioral quality.*

Discussion

While we looked at our model in entirety, we observed an imbalance between the dimensions. Contextual quality and governance quality are strong dimensions, since they contain almost two thirds of all factors. Interaction quality is also strong, as it has the highest average score (2.1), the two highest-ranked factors of the whole model and four factors with a better score than 2.0. This indicates, that these dimensions have a higher influence on innovation generation than agreement and interaction quality, but we cannot prove it with the available data.

Concerning agreement quality, we suspect, that the contextual, governance and behavioral factors affect innovating people more continuously in their daily life than the contract does. Furthermore, context and governance are reflected in the contract. Surprisingly, all additional factors the participants mentioned during open questioning fall within agreement quality. This signals, that there is a need for future research to further study this dimension, especially the unwritten contract, for which we only identified one factor from existing literature. We are quite sure, that there are more norms and expectations influencing innovation generation in ITO. Nevertheless, the other dimensions seem to be covered well by existing research, since the experts did not add any new factors during 16 interviews.

Contribution to Research

We shifted the traditional cost-focused viewpoint on ITO projects to the issue of innovation-generation within ITO client-vendor relationships. This becomes increasingly important for today's organizations; accordingly, it is of great relevance for our research community. To answer the research question, we created a model which expands our knowledge on the topic by several means.

First, the 35 innovation-fostering factors we identified from a thorough literature review (e.g. *new forms of contract setting*, *use of brokers*) provide an overview of the current state of research. On the other hand, the new factors we gathered from expert interviews (e.g. *use of an evaluation catalogue*, *win-win situation*) were described within our research project for the first time. The combination of these factor sets leads to a wide understanding of how CVRs should be adjusted to foster innovation.

Second, we developed an integrated, overarching model, which structures the factors in the context of ITO client-vendor relationships. The model shows how each factor influences innovativeness in CVRs and furthermore, the scores extracted from the expert interviews indicate the strength of each relationship. By analyzing the model's dimensions and categories in detail, we identified gaps in current research (e.g. regarding the unwritten contract). Therefore, we would like to encourage researchers to further investigate this important topic by taking our model as a groundwork, widening the scope by adding further aspects, and deepen our knowledge by examining the model's categories and factors in detail. Afterwards, an overarching theoretical framework can be created, building on this overview model. Additionally, our model can be incorporated into a dedicated ITO theory (Lacity et al. 2010).

This research project is, to the best of our knowledge, the first to examine ITO client-vendor relationships from an innovation viewpoint.

Contribution to Practice

We seek to raise awareness in practice, that various factors influencing innovation generation in CVRs exist. Practitioners, both client as well as vendor organizations, can use our model to assess their innovation-generation potential and to identify areas which need improvement. Like in the ITO client-vendor relationship quality model (anonymous for review), our model's distinct factors can be used as action items. However, detailed process models and best business practices have yet to be developed.

Limitations

Even though this study succeeds in answering our research question and adds further generalization, our research approach leads to some limitations, which need to be addressed by future research.

First, as our model serves its purpose by structuring the factors and providing a preliminary importance ranking, it only barely covers the questions why some factors are more innovation-fostering than others and how they interact. The small sample size of this study impedes the finding of statistically significant patterns in the statements of our interviewees. Further qualitative and quantitative research on these topics is needed to enable sufficient theory development.

Second, scores need to be assigned to the new factors to verify their general validity and make them comparable to the others. If they turn out to be important, they should be investigated in detail from a theoretical perspective.

Third, as we deliberately shifted our focus away from cost-efficiency, this goal remains critical for most ITO projects. Future research projects need to answer the question, which factors are especially important to achieve innovation cost-efficiently and how to keep these two goals in balance.

Conclusion

Since many firms struggle to create innovations through information technology outsourcing (ITO) engagements, we created a model that structures the distinct factors of a client-vendor relationship regarding contextual and agreement quality, which affect the generation of innovation in ITO.

Our research approach combined a theoretical viewpoint (detailed literature review) with expert opinions (qualitative interviews). We identified 35 factors from the existing literature, three were added by the experts. To structure them, we utilized a model, which investigates ITO client-vendor relationships regarding their general quality. Our resulting model consists of five dimensions, which are again divided into categories comprising the individual factors, ranked by importance. We discussed the factors with the most significant rankings from a theoretical perspective, combined with common viewpoints and strong individual opinions of the interviewees.

This study is, to the best of our knowledge, one of the first to structure existing research as well as expert knowledge on the innovation-through-IT-outsourcing issue in one comprising model. It is a first step towards a better understanding of the important connection between innovation generation and information technology outsourcing. We encourage researchers to further develop it by finding additional factors, verifying the new factors we acquired from the interviews, investigating interactions between factors and creating detailed process models as well as best business practices. This will foster the innovativeness of future information technology outsourcing projects.

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