Service Integrators in Business Networks – The importance of Relationship Values

Abstract:

To realise the potentials of CRM (customer relationship management), relationship-specific processes need to be designed and implemented in companies. This is all the more important and complicated in business networks where two or more actors collaborate to serve the customers. A good collaboration within business networks is the basis for understanding the customer process and identifying customer needs. But, even in these days of customer orientation, transaction orientation is still a matter of strong interest, and the following questions remain to be answered: What is the difference between relationship-oriented processes and transaction-oriented processes, and how can relationship-oriented processes be designed for a business network? The authors give first answers to both questions by using a systematic, goal-oriented specialisation of generic actions. To give an example, one relationship-oriented process will be designed and specified for a certain customer process in the course of this paper.

Introduction

The transition of companies from Industrial to Information Age has long since been the subject of numerous publications, and many examples have been used to highlight the key aspects of the Information Age (e.g. Österle 1995; Alberts and Papp 1997). Two cornerstones of companies in the Information Age are the customer process and the business network (Alt et al. 2002, 7). Taking the customer process as the basis, customer requirements are in the centre of consideration, while sales process orientation and the view on the company's own products retreat into the background (Österle et al. 2000, 24). Companies in the Information Age cooperate with partner companies in business networks, because this is often the only opportunity to serve the customer process in all its aspects, meaning to offer matched individual bundles of possibly very different basic products and services. To accomplish this challenging task, the use of information systems (IS) is absolutely necessary. This necessity is pointed out by means of the customer process "constitute home ownership" as an real-world example in a financial services network. This example makes it obvious that IS are essential to efficiently support the service process within a business network and that they are a helpful means to manage the relationship with the customer.

The central position within a business network is taken by the so-called Service Integrator, whose task is to integrate basic products and services of cooperating companies to offer bundles that match the individual customers' needs (Heinrich and Winter 2004, 3-4). Thus, customer management is of paramount importance for the success of both the Service Integrator and the entire business network. Customer management not only supports the gathering of the relevant customer needs, but also the setting up and care of long-term valuable customer relationships. At the same time, customer management is the basis for coordinating the actors in the business network. Hence, one major challenge for the Service Integrator is to focus on a relationship orientation when conducting business with customers and partners.

But what are the differences between relationship orientation and traditional transaction orientation? And which new processes have to be identified and systematically designed for the role of a Service Integrator in order to realise such a relationship orientation? Such questions, which have not yet been sufficiently discussed, are not only of theoretical but also of practical relevance. Therefore this paper focuses on two key issues:

1. The terms relationship and relationship orientation have to be defined in contrast to transaction and transaction orientation, and essential differences (i.e., the relationship values) need to be worked out.

2. Based on the identified relationship values as well as the relationship life cycle, a procedure to design relationship actions and processes for the role of a Service Integrator has to be developed.

Against this background, the research process is the following: In a first step, a brief reflection of existing approaches focusing on business networks and customer relationships is conducted. A formal definition of the construct customer relationship based on so called "relationship values" is presented afterwards. For that reason, a deductive, analytical research position (cf. Meredith et al. 1989) is assumed, i.e., based on a few premises; from this the construct of a customer relationship from a customer's point of view is deduced. This construct acts as a conceptual and definitional basis for the normative, goal-oriented design of relationship actions and processes (for goal-oriented process design, see also Neiger et al. 2009; Saxena 2009; Soffer and Wand 2004), which are necessary for the role of the Service Integrator. In line with the evaluation tradition of analytical modelling and in order to demonstrate both the applicability and the practical utility of the goal-oriented process design, a real-world example is illustrated. Here, the customer process "constitute home ownership" and its corresponding service process – performed by a financial services network – are described. Finally, the strengths and weaknesses of the presented approach are discussed and the implications for future research are outlined. The following Table 1 gives an overview of the paper:

Table 1 Overview of the paper

Section	Objectives / Questions	Output / Result
Related Work	What is meant by the term business network and which specific roles exist in a business network? Why is customer relationship management vital for business networks and especially for the role of a Service Integrator?	In the paper, the focus is on the role of a Service Integrator in a business network. The construct *customer relationship* is central to the role of a Service Integrator; however, in the literature, this construct is not adequately defined for our purpose.
Definition of a customer relationship	What exactly are the differences between transaction-oriented and relationship-oriented customer interactions? What is needed to constitute a customer relationship by a Service Integrator?	Formal definition of the construct *customer relationship* The existence and relevance of *relationship values* constitute a customer relationship.
Designing relationship-specific processes	How can relationship-oriented actions and processes for the role of a Service Integrator be systematically designed?	When designing relationship-oriented actions and processes 1) generic actions 2) relationship values 3) relationship life cycle and its phases need to be considered and integrated.
Application: Design of a relationship process in a financial	Is the presented procedure to design relationship-oriented actions and processes applicable in a real-world example?	Taking the process *create specific investments* of a Service Integrator in financial services into account, the presented procedure is demonstrated. This process is designed considering the generic actions *communicate* and *create*, the relationship

services network		value *specific investments* and the *acquisition* phase of the relationship life cycle.
Conclusion	What are the main characteristics of the presented approach to design relationship-oriented actions and processes?	Strengths and weaknesses of the presented approach

Review of Literature

The review is structured along the two research themes which are the basis of this research: business networking and CRM. The focus is on basic concepts and definitions for a systematically design of relationship-oriented actions and processes for the role of a Service Integrator.

Related work in business networking

During recent decades different forms of cooperation have been developed in order to realise the working relationships between companies in business markets. One of the first of these forms focused on the dyadic relation between *two* companies (e.g. Anderson and Narus 1984; Dwyer et al. 1987; Hallen et al. 1991). Approaches like "value-adding partnerships" (see Johnston and Lawrence 1988) extended the focus and dealt with the management of goods and services along the value chain during the collaboration between *several* independent companies instead of only two. In this constellation the companies formed close and lasting ties with one other (Johnston and Lawrence 1988, 95).

Another milestone from dyadic business relationships to a more extended view can be seen in so-called business networks that represent sets of connected companies or sets of connected relationships (Anderson et al. 1994, 1). Within a business network different actors (e.g. customers, suppliers, business partners) collaborate to produce added value (Alt and Smits 2007, 122), which cannot be exploited without an existing network.

All the different cooperation forms are subsumed under the term business relationships, and the key question is whether and how such business relationships can create added value for their participants and especially for their costumer. Based on representative studies, Barringer and Harrison provide a summary of potential advantages of business relationships which include resource pooling, risk and cost sharing, gaining access to a foreign market, increasing the speed to market and flexibility as well as neutralising or blocking competitors (Barringer and Harrison 2000, 385). Despite all these advantages, many business relationships in practice do not meet the

expectations of their participants or fail for other reasons (Barringer and Harrison 2000, 368). Therefore not only the advantages but also the potential disadvantages are stated, which include loss of proprietary information, management complexities, financial and organisational risks, becoming dependent, partial loss of decision autonomy as well as contradictoriness of cultures (Barringer and Harrison 2000, 386). Here, the authors conclude that the decision to participate in a business relationship must be based on an assessment of different values that include especially non economic or non monetary values as well (Barringer and Harrison 2000, 396).

Further studies try to extract the impact of IT, especially interorganisational systems (IOS), in business networks. IOS are automated IS shared by two or more organisations (e.g. actors in a business network) and designed to link their processes (Steinfield et al 2005, 224). The IOS has two major roles in business networks: It supports the reduction of the transaction costs and risks and enables the feasibility of the collaboration (Kumar and Dissel 1996, 282). In addition, the research isolated strategic, operational and social impacts on organisations using IOS (Robey et al. 2008, 505-507). In the majority of the cases IOS has positive effects on strategic and operational measures of performance. Regarding the social impacts, the analyzed cases show positive as well as negative outcomes, particularly the changes in power relations among the actors.

There is a broad range of different forms of business relationships, commonly pursued in practice and discussed in literature (Alt and Smits 2007, Barringer and Harrison 2000, 385, Kumar and Dissel 1996, 287). The form varies by the degree to which the actors are coupled (tightly or loosely).

The following investigation supposes a special form of a business network which will be introduced next. It was developed by (Österle 1995; Leist and Winter 1999; Österle et al. 2000; Alt et al. 2002) and describes a network uniting suppliers, producers and customers that are connected primarily through the Internet. It supports two different goals: (1) It provides a total value proposition to specific customers with an appropriate mix of products and services that meet their needs along their entire life cycle from sourcing, usage, and maintenance right up to disposal. (2) Its goal is to maximise the shareholder value for all actors in the network.

The cooperation within the network enables all the actors to develop and bring in their specific competences in order to obtain competitive advantages. For example, banks that process a high volume of monetary or securities transactions can strengthen and further develop this competence to reach out to a larger clientele. Because the customer requirements do not (always) coincide with the industry structure, but, in many cases, concentrate on integrated solutions, a business network in the Information Age will not only integrate specialised banks, but also, other companies such as insurance companies, training centres, architecture companies, and building

companies (Heinrich and Leist 2000, 147). One of the benefits of such a network is the increased flexibility of linking actors together (Delporte-Vermeiren et al. 2004, 167).

A leading position in the network is played by the Service Integrator, situated in the centre of the network (see Fig. 1) and offering products and services as individual or integrated solutions. The Service Integrator represents a specific role in the business network with definite tasks and responsibilities and can be an independent company (e.g. in case of a business network for tourist services the Service Integrator could be a travel agency) or a business unit of a company (e.g. in case of a business network for financial services the Service Integrator could be the sales department of a bank). The offered customised and integrated solutions can even refer to different walks of life or personal experiences when the customers first of all need support in structuring their specific problem and secondly in bundling the suitable products. This is normally the case when the first child is born or when a family home is (to be) built. The related products and services are provided by other actors within the network. Since the Service Integrator is normally the only actor in the business network with direct customer contact, it is the Service Integrator's responsibility to pass on important information about customer requirements to the other partners in the network (Heinrich and Leist 2000, 147-148). This is the most important way to adapt the business network to customer needs and to ensure competitive advantages.

At the same time the Service Integrator is an intermediary who connects the actors of the business network (suppliers, business partners, allies, and customer). So the Service Integrator's main tasks are the management of internal and external interactions (of the business network) and the development and realisation of cooperation strategies (Alt et al. 1999, 169). In contrast to the intermediary of an electronic market, the Service Integrator is part of the network, which is based on long-term contracts on the grounds of trust and commitment. Accordingly the collaboration between the actors is not first and foremost built on a pricing mechanism, which means that it is not necessary for the actors to negotiate about price and conditions for every interaction.

Due to this intermediary position, IOS are of essential importance for the Service Integrator in order to facilitate efficiency coordination and cooperation between the actors of the business network. This includes e.g. the exchange of large amounts of information, ranging from information of annual contracts and periodic progress reporting to real-time delivery and invoicing information. The exchange of information exemplifies not only that IOS enable the feasibility of the collaboration but simultaneously support the reduction of transaction costs.
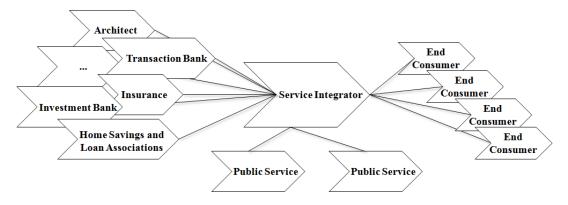
Fig. 1 Business network (example)

Related work in CRM

As pointed out above, the main task of a Service Integrator is the management of customer interactions, since in a severe competitive environment the customer and his assets define a crucial resource that needs to be specifically focused in interaction processes (Morgan and Hunt 1999; Kotler and Armstrong 2009). Thus, customer orientation and especially customer relationship-orientation are indispensable for business networks and, in particular, for the Service Integrator in order to survive in saturated markets.

In the literature, a variety of definitions and concepts of the construct *customer relationship* can be found (for valuable overviews and insights see Gummesson 2008; Romano and Fjermestad 2003 and Romano and Fjermestad 2009, especially for electronic commerce customer relationships). Many authors state that a relationship is to be understood as a sequence of reciprocal, connected, non-coincidental, realised transactions (Baker et al. 1998; DeWulf et al. 2001). It is thus seen as a holistic, continuous interaction with so-called episodes (individual purchases) which can not be clearly and unambiguously separated from each other (Grönroos 2004). But what is the essence of these *"interlinked transactions"* and what are the criteria for using the term "*relationship*"?

In this context, numerous, partly different, opinions exist. Many of them – as for instance (Eriksson and Fjeldstad 2001) – state that "a series of transactions gradually transforms into a relationship, as a result of the *social* exchange between buyer and seller. A relationship is thus much more than a series of transactions, and contains dimensions of power, cooperation, commitment, and trust to name but a few". By contrast, other authors emphasise the long-term, economic objectives of the partners (as well as its investment character) (Diller 1996; Mukherji and Francis 2008); these objectives are lost as sunk costs if the relationship is terminated. Other

authors also name barriers of exit in the sense of different costs, like search costs and learning costs or risk factors as characteristics for a relationship (e.g. Polo and Sese 2009). Apart from the above, a number of sources can be found in the literature highlighting (partially contradictory) criteria and cases where a relationship could or does exist or indeed does not exist (e.g. Palmer 1996).

Against this background, it is hardly surprising that contradictory statements are made in the literature regarding the design of relationship processes, which are fundamental to the role of a Service Integrator. On the one hand, processes are discussed which primarily focus on the need to restructure the traditional divisions "distribution" and "sales" (purely product- and transaction-oriented) and, in doing so, oppose the new idea of relationships. All such processes focus on customer contacts from the company's perspective and are thus based on an extensive view of all processes in *marketing*, *sales,* and *services* (in parts Payne and Frow 2005, Lambert 2010; Schulze 2000). For instance, the linchpin of the approach of (Schulze 2000) is thus the sales cycle as it is discussed in the context of transaction marketing. So it is no surprise that the central idea of relationship orientation, namely the explicit interest in a long-term, intensive and valuable customer relationship, does not become evident in the process models of this approach.

In contrast, some authors discuss processes which directly refer to the establishing and retaining of customer relationships, like for instance customer migration or customer recovery (Rapp 2005; Swift 2001). The process design takes place in a selective manner, without an exact definition of a relationship and without a statement as to what extent customer needs are satisfied by the actions of the processes. For example in his five-phase model, (Rapp 2005) describes a procedure to establish relationship strategies in the first place and finally arrives at modelling the relevant relationship processes. However, neither a goal-oriented, effective design of processes nor their explicit modelling takes place. It is for instance remarkable that selected processes are seen as elementary for establishing and maintaining relationships, yet they are neither explicitly identified nor are possible interdependencies (e.g. with respect to the pursued goal) between the processes revealed. In summary, it may be stated that this kind of approach deals with customer loyalty, emphasising its importance, whereas the modelling of relationship-oriented processes is done only selectively. Hence the question "how can relationship processes be designed?" has to be answered in order to specify the role of a Service Integrator.

Before that, a contribution has to be made to distinguish between transaction-oriented and relationship-oriented interactions. However, this contribution aims first and foremost at developing a conceptual and definitional foundation for our normative, goal-oriented design of relationship actions and processes in the subsequent section.

Definition of a customer relationship

Transaction-oriented vs. relationship-oriented interaction

In the following, the terms relationship orientation vs. transaction orientation from a customer's point of view are analysed and defined. Therefore, a simple example of a petrol station as Service Integrator is used that bundles the services and products of different Service Providers (e.g. petrol supplier, in-house supermarket operator, car repair service, car wash operator) to serve its customers.

In this respect, a decision situation is assumed in which a customer has to make several purchases of fuel within a given period of time[1]. Criteria such as the competitive price or where a petrol station is located are considered by the customer during her/his utility calculation. For reasons of optimisation, the number of the single transactions with each petrol station has to be determined, which would change, if, ceteris paribus, the price at one petrol station were temporarily underbid by a competitor (the customer switches the Service Integrator partially or completely). Here, a single transaction is performed with a *single* objective and refers to a particular instant in time, carried out between separate entities or objects, often involving the exchange of items such as information, money, services, and goods (like a purchase of fuel). What happens, however, if utility values and costs occur that must be assigned no longer to a single transaction but rather to several or all transactions between customer and Service Integrator (e.g. a discount depending on several transactions or the overall purchase quantity)? In the aforementioned example the customer's decision would no longer only be based on the petrol price related to a single transaction or the location of the petrol station; now, the customer would be likely to consider (as an additional variable) in his/her decision the exemplified discount granted, depending on more than one transaction. This emphasises a transaction-spanning perspective on the customer interaction between customer and Service Integrator and is in the following called the transaction-spanning impact. This means that the customer carries out interactions to benefit from (consciously or unconsciously) in the present or in the future (e.g., to create utility or to avoid costs in further transactions).

Another example could be an internet access portal configured to the individual needs of bank customers (user-friendliness, reliability, etc.), thus cutting the costs of future transactions. This example illustrates that in

electronic markets the management of customer relationships and thus of transaction-spanning impacts are of specific importance (see also Romano and Fjermestad 2009; Turban et al. 2008). On the one hand, face-to-face contact is often reduced (or even completely dispensed with) due to the use of IS, which makes it all the more difficult to establish a close and individual relationship-oriented interaction. On the other hand, the use of IS creates new opportunities to offer, for instance, an integrated, high quality service, as it is recommended by the role of the Service Integrator. In addition, a customised configuration of an internet access portal results, for instance, in a customer lock-in in terms of a *specific investment*, which results in a transaction-spanning impact as well.

This discussion of a relationship-oriented interaction points out that transaction-spanning impacts can be created by monetary and non-monetary values. (Heinrich 2002) analyses such monetary and non-monetary values. He investigates which motives, from a customer's point of view, exist and make them establish, maintain, or terminate a relationship. On that basis, monetary and non-monetary values – so-called *relationship values* – can be derived (see Table 2). *Commitment, involvement*, and *trust* count among the non-monetary relationship values, while *monetary premium & sanctioning, specific investments*, and *contractual incentive & control mechanisms* belong to the monetary relationship values. Here, relationship values have to be clearly delimited from other concepts, as for instance the Customer Lifetime Value as the sum of the discounted cash flows (cash value) in each period considered.

Table 2 Relationship values identified by (Heinrich 2002)

	Relationship value	Description
non-monetary	*commitment*	The sensation of being emotionally obligated towards and closely connected with ("attitudinal dimension") a reference object (e.g. a bank counsellor) due to a feeling of moral gratitude or due to common attitudes and standards.
	involvement	Describes the degree of activation, motivation, and interest of a person, triggered by a certain impulse (e.g. the specific design of bank subsidiary or a very likeable counsellor) thus resulting in establishing and retaining a relationship.
	trust	Refers to one's attitude towards a person or a group of people, relying on their willingness and ability to meet one's expectations, in particular without being opportunistic.
monetary	*monetary premium & sanctioning*	A monetary premium corresponds to a price advantage being promised which has a positive influence on the appeal of a decision option (e.g. to intensify an interaction). On the other hand, sanctioning refers to a threatened punishment meant to take measures against the rejection of a decision option and thus to prevent it.

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[1] In contrast to (Heinrich et al. 2009), the definition of a customer relationship refers in the following to the role of the Service Integrator and is illustrated by an example of a petrol station, which makes it easy to demonstrate a purely transaction orientation.

	specific investment	This term refers to a monetary commitment meaning an input of resources by the customer which would suffer an impairment outside this relationship.
	contractual incentive & control mechanisms	Contractual incentive & control mechanisms as for instance guarantees, profit-related fees or "sanctions" (repayments, if the customer is not satisfied) that will be offered by the company to enable the customer to claim the degree and the quality of the performance delivery.

The relationship values presented in Table 2 are based on both behavioural and managerial theories dealing with the analysis of the interactions among individuals as well as organisations (see Heinrich 2002 for details). Regarding behavioural theories, first of all, learning and risk theories are valuable, while considering managerial theories, the transaction cost theory (TCT), and the principal agent theory (PAT) can serve as a basis.

Both managerial theories (TCT and PAT) examine, under the assumption of bounded rationality and an individual utility optimisation (e.g. regarding an opportunistic behaviour), which costs go along with the conduction of transactions (between institutions and within an institution) and how these costs specifically affect the interaction between institutions (or in general actors) with respect to uncertainty, asset specificity and asymmetric information (Coase 1988, Ross 1973, Williamson 1975 and 1996).

Here, transaction costs occur depending on several factors, like, for example, the behaviour of the actors involved in the exchange (such as limited rationality, morality and opportunism), environmental factors (uncertainty and complexity of the interaction, asset specificity and the strategic importance of an asset), transaction conditions (technical, legal and social conditions of the transaction), and transaction frequency (see Williamson 1996). In addition, the PAT analyses which costs (such as the costs for controlling, contracting, etc.) have to be considered in case a transaction or a task is entrusted to an agent on behalf of the principal, especially under the premise of asymmetric information. Such an analysis is particularly important for complex services (such as for a service bundling by the Service Integrator), where the customer (i.e. the principal) can not assess ex ante (and to a certain extent ex post either) the quality and performance of the Service Integrator (i.e. the agent), because "universal benchmarks" or ratings concerning the traded services are missing or cannot be applied (e.g. in case there is no market transparency or the services are not homogeneous). In this respect, both theories focus, among other things, on contractual agreements which may limit a possible opportunistic behaviour and on the alignment of interests (e.g. "win-win situations"). Thus, these theories mainly provide a foundation for the monetary relationship values (*monetary and premium sanctioning, specific investment, and contractual incentive & control mechanisms*) stated above.

Furthermore, in order to substantiate the non-monetary relationship values, it is possible to rely on both learning and (perceived) risk theories and their applications in the context of CRM. Here, the perceived uncertainty of the

customer before, during and after each transaction conducted is in the focus of consideration. Taking into account the risk theory, the perceived uncertainty of the customer results especially from the (partly) unknown product and service features and from whether they meet the customer's expectations (see e.g. Bettman 1973, Cunningham, 1967). The reduction of this uncertainty may result from affective (e.g. to trust in the brand or image of a Service Integrator) as well as cognitive factors, which also include past experiences and e.g. recommendations from other actors.

In addition, especially according to the relationship values *trust* and *commitment,* learning theories and their applications in CRM have to be considered, too, as they focus on the cognitive process of acquisition and treatment of information (e.g. about services, products, etc.) and their effect on the behaviour of customers. In the field of customer interactions, important forms of learning are (see also Wiswede 1985, Wiswede 1988): Imitation ("learning on the role model"), expectation and amplification ("learning by means of the expected result, e.g. in terms of an expected reward shown for an actor's behaviour") and habituation ("automation of behavioural patterns due to multiple repetitions and low importance"). Apart from habituation it is supposed here that incentives in the form of tangible or intangible rewards or a penalty that is not deployed when the favoured behaviour is shown are important for learning and the further repetition of the actual customer's behaviour (e.g. to buy again) in an interaction.

Beside the description of the theoretical foundations of the relationship values, the transaction-spanning impact of the relationship value is exemplified in more detail by means of the values *trust* (non-monetary value) and *specific investment* (monetary value).

For the first relationship value trust a number of trust-building measures can be found in the literature (Ebert 2009; Kautonen and Karjaluoto 2008; Morgan and Hunt 1994; Schäfer 1999). These authors largely concur in naming the principle of extrapolation which means that someone (e.g., a customer) draws conclusions from past first hand or second hand experiences to other contacts in the future on the credibility and reliability of someone else (e.g. a Service Integrator). To be able to do so, the communication between the partners must be open and honest (Morgan and Hunt 1994; Schade and Schott 1993) and should, at the same time, ensure a certain transparency regarding the creation of the products and services (as a sound basis for the future). Another aspect in this respect is to *launch references* of successful interactions with other customers (Plötner and Jacob 1996), and, in particular, of long-term co-operations with well-established companies (Schade and Schott 1993), for example in a business network. Also, the *initiation of reciprocities* counts among trust-building measures (Plötner 1995). This refers to the link between the strength of the trust on the side of the customer and that on

the side of the Service Integrator; this means that if the employees of a Service Integrator demonstrate trust in the customer, the customer's trust will increase, too. This includes, for example, that the Service Integrator is open about own aims and intentions (a clear commitment to a long-term relationship) (Schäfer 1999). Table 3 provides selected trust-building activities:

Table 3 Selected activities to create the relationship value *trust* (according to Plötner 1995; Schäfer 1999)

Relationship value	Trust-building activities
Trust	– Managing future expectations – Launching references – Initiation reciprocities – Establishing analogies – Signalling self-confidence

The second relationship value, *specific investments,* is important especially for Service Integrators acting in electronic markets. Here, specific investments are understood as a monetary asset in the sense of employed resources by the customer who – due to its specific use within the relationship – would suffer a (complete) loss in value if the relationship were terminated. In this context, specific investments have to be divided into media-, needs- and knowledge-oriented investments:

• Media-specific investments refer to an easy, convenient, and efficient electronic access of the customer when using the products and services of the Service Integrator. In electronic markets, this refers mainly to a "unique" interface, for instance in the form of an individualised communication medium or tool (e.g., the tool "myInformer" of Comdirect AG), which can neither be used any more nor transferred once the relationship were terminated. Thus, by establishing a new relationship this leads to a "loss" or, at least, to additional "configuration costs". In transaction cost theory, this is represented by the term *specificity of (tangible or intangible) assets* (e.g., Williamson 1985) which is based on the proprietary facilities, infrastructure, and equipment of a customer when cooperating with a Service Integrator. Thus, switching costs are generated, and a transaction-spanning impact is supported.

• In contrast, considering needs-specific investments, individualised and/or complex products or services of the Service Integrator play an essential role. Such investments are given if the characteristics of previously purchased products or services make it most favourable from the customer's point of view to purchase further products or services ("supported compatibility"). In extreme cases this may even be the only possibility if – intended or not – there is no compatibility with other products or services of competitors ("generated incompatibility"). The last-mentioned aspect can often be perceived with proprietary system

technologies, like the electronic cash system of PayPal allowing payments and money transfers to be made through the Internet. Both alternatives, "supported compatibility" and "generated incompatibility", result not only in a transactional benefit, but also in *specific investments* that support the maintenance of a lasting relationship so that further transactions appear to be the best choice.

- The third category of "knowledge-specific investments" refers to knowledge about the customer, her/his needs, her/his business and family environment, the contact history with the customer, etc. Such knowledge stored by the Service Integrator is characterised as specific investments, if it is lost after terminating the relationship. Nowadays, in particular, customer knowledge management is no longer possible without IS. Consequently, the knowledge gathered by the Service Integrator can be taken as a basis to aim at a more effective and efficient interaction. For example, if the general risk attitude of a customer is known, a Service Integrator in a financial network can offer individualised, risk-adjusted products and services. The customer perceives this use of knowledge as advantageous and beneficial to the relationship, as long as she/he can be sure about the Service Integrator's diligent and responsible handling of the knowledge. It is, in particular, the last-mentioned aspect which illustrates the difference between a long-term interaction with a personal customer consultant (who often knows his customer very well) and the threat of the "transparent customer" in anonymous electronic networks.

Impact of relationship values

This section investigates the impact of relationship values on a customer's decision in order to develop a precise formal definition of what is called customer relationship (in contrast to transaction-orientation). Here, the above discussed definitions of a customer relationship presented in the literature can act as a good starting point; however, they are not adequate for our purpose since such a definition is essential to understand the specific role of the Service Integrator. The following premises shall apply to the customer's calculus concerning the establishing, maintaining, and termination of the interaction between customer and Service Integrator:

P1. The customer shall have a utility preference relation, that means she/he can assign to each transaction $t \in T$ conducted with a Service Integrator a real utility value $\Phi(t)$ using a mapping $\Phi: T \to \mathfrak{R}$. Thereby a value ranking of all alternatives can be determined. Thus an alternative t_i is in relation to another alternative t_j [superior/inferior/equivalent] if the utility value $\Phi(t_i)$ is [$>$/$<$/$=$] to $\Phi(t_j)$.

P2. The utility preference relation has to be complete, reflexive and transitive.

P3. The preference relation shall consider not only monetary but also non-monetary elements (e.g. obliging behaviour of the staff or benefit from the Service Integrator's image).

At first, a customer only wants to purchase one product or one service (single, isolated transaction). If I different Service Integrators offer the requested transaction, a customer will prefer the transaction t_{i*} of the Service Integrator $i*$ (with $i* \in I$) for which the net utility value e of $i*$ (gross utility value $U(t_{i*})$ calculated by means of the preference relation less the total costs of $C(t_{i*})$) is superior in relation to every other offer. The costs $C(t_i)$ result from the purchase and utilisation of the offered service t_i. Here, the utility value results from the direct contribution of the offer to satisfy the customer's needs (Kotler and Armstrong 2009). An example: If a bank customer only wants to take up a construction loan, she/he will compare different offers by valuing characteristics of loan products such as duration or payback modalities and by considering cost aspects like e.g. the annual percentage rate. So, in this example, the customer does not consider any (temporarily) preceding or succeeding aspects (e.g., the reference of a customer's friend for one selected Service Integrator), but any cost or value aspect which is inherently and directly connected with a specific loan product.

Given that a customer wants to conduct T homogenous transactions overall, then in the literature often the "either-or-premise" is supposed, which means that either all or no transaction(s) are/is settled with one Service Integrator. In many cases but at least in electronic private consumer markets, like in financial services, this definition is, of course, (too) simplified. For this reason, the "either-or-premise" has not been used here, which means that, depending on the particular realisable net utility value, the customer select for each transaction $t \in T$ the best possible offer (maybe each time provided by a different Service Integrator).

Therefore in the customer's calculus, an optimal selection of the transaction shares λ (e.g. if a customer settles 5 out of 20 transactions with Service Integrator i then the transaction share λ_i is ¼) has to be determined for all Service Integrators I. The term [1] shows this calculus regarding the utility value $U(\lambda_i)$ and costs $C(\lambda_i)$ of each transaction share λ_i settled with Service Integrator i.

$$[1] \quad \max_i \; e = U(\lambda_i) - C(\lambda_i) \;\; with \;\; \sum_{i=1}^{I} \lambda_i = 1$$

So far, a simple calculus is defined to demonstrate "a pure transaction orientation" of a customer, which means that none of the transaction-spanning impacts of the relationship values discussed above were already considered. In the following, the relationship values and their impacts are taken into account, which can be differentiated into two categories:

The first category of transaction-spanning impacts V^C shall have a *constant* utility impact within an interval [lower limit *(LL)* $\leq \lambda \leq$ upper limit *(UL)*] of the transaction share. An example to this impact are recommendations of a customer for a Service Integrator ("transfer" of reputation) to reduce the inherent risk (due to a potentially opportunistic behaviour of the Service Integrator) of another customer. Other examples are promises of bonus percentages or fidelity rebates for a defined number of potential subsequent transactions (transaction-spanning character).

In contrast, the second category of transaction-spanning impacts V^V shall have a utility impact which changes continuously depending on the transaction share (change coefficient $v > 0$ and exponent $\gamma > 0$). Here, an exponent $\gamma > 1$ represents a convex run of the function of the impacts V^V, which means that a Service Integrator offers, for instance, a *monetary premium* to a customer that increases more and more with each further increase of her/his transaction share. Another example is the possibility to customise services on the basis of customer data gathered during previous transactions, which is an impact resulting from the relationship value *specific investment* (see above). In contrast, an exponent $0 < \gamma < 1$ represents a concave run of the function of the impacts V^V. For instance, this is typical for the relationship value *involvement*, since the degree of activation, motivation, and interest of a customer normally slackens with each further increase of her/his transaction share which is caused by phenomena like variety seeking (Rohm and Swaminathan 2004; Seetharaman and Che 2009). Again the impacts V^V could depend on an interval [$LL \leq \lambda \leq UL$].

If these impacts are considered, the customer's calculus [1] changes as follows:

$$[2] \quad \max_i e = U(\lambda_i) - C(\lambda_i) + V(\lambda_i) \quad with \quad \sum_{i=1}^{I} \lambda_i = 1$$

In general, the impacts *V(λ)* can be represented as follows:

$$[3] \quad V(\lambda) = V^V + V^C \quad with \quad V^V = v \cdot \lambda^\gamma \quad and \quad V^C = \text{constant within a given interval}$$

In the following, a simple example with two Service Integrators is presented, which is not a real-use situation. This example aims to illustrate the formulas above, our definition of a customer relationship below, and especially the transaction-spanning impact of relationship values:

In a first instance, the customer optimises her/his calculus regarding the utility values $U(\lambda_i)$, costs $C(\lambda_i)$ and impacts *V(λ_i)* of both Service Integrators without dynamical adaptations.

Service Integrator 1: $\quad U(\lambda_1) = 9\lambda_1^{0.8} \quad C(\lambda_1) = 3.5\lambda_1 \quad V(\lambda_1) = 1.5\lambda_1^{0.5} + \begin{cases} -1 \text{ for } 0 < \lambda_1 < 0.4 \\ 0.5 \text{ for } 0.4 \le \lambda_1 < 0.8 \\ 2 \text{ for } 0.8 \le \lambda_1 \le 1 \end{cases}$

Service Integrator 2: $\quad U(\lambda_2) = 8.5\lambda_2^{0.7} \quad C(\lambda_2) = 4\lambda_2 \quad V(\lambda_2) = 0.7\lambda_2^{0.85} + \begin{cases} -0.75 \text{ for } 0 < \lambda_2 < 0.5 \\ 0.5 \text{ for } 0.5 \le \lambda_2 < 0.7 \\ 3 \text{ for } 0.7 \le \lambda_2 \le 1 \end{cases}$

In this example, the utility functions U_1 and U_2 shall have the usual, concave run due to purely transaction-oriented reasons (e.g. price fluctuations). On the other hand, a linear increase (constant unit costs of a single transaction) is assumed for the costs functions C_1 and C_2. The functions of the impacts V_1 and V_2 consist of the parts V^V und V^C in each case. For Service Integrator 1 a customisation utility results from collected customer data (positive, removing marginal utility for increasing transaction shares), which leads to a continuous function $V^V = 1.5\lambda^{0.5}$ with $\lambda \in\ ]0;1]$. The function V^C consists of initiation costs at the height of 1 for $\lambda \in\ ]0;1]$, as well as two constant, positive impacts at a value of 1.5 with $\lambda \in\ ]0.4;1]$ and 1.5 with $\lambda \in\ ]0.8;1]$, because of two particular bonus payments. To that extent, all three single impacts result as a whole in the above-represented, discontinuous function V^C. The function V_2 can be similarly interpreted for Service Integrator 2.

In a first step, only the directly attributable, isolated net utility value of the transactions (see [1]) is regarded. Here, the customer's calculus as well as the transaction shares λ_1 and λ_2 can be represented as follows:

$$\max_i e = U(\lambda_1) - C(\lambda_1) + U(1-\lambda_1) - C(1-\lambda_1) = 9\lambda_1^{0.8} - 3.5\lambda + 8.5(1-\lambda_1)^{0.7} - 4(1-\lambda_1)$$

$$\Rightarrow \lambda_1^* \approx 0.67 \wedge \lambda_2^* \approx 0.33$$

By contrast, if the *transaction-spanning impacts* $V(\lambda_i)$ of the *relationship values* (see equation [2]) are explicitly considered, the calculation is as follows:

$$\max_i e = U(\lambda_1) - C(\lambda_1) + V(\lambda_1) + U(1-\lambda_1) - C(1-\lambda_1) + V(1-\lambda_1) =$$

$$= \begin{cases} 8.5(1-\lambda_1)^{0.7} - 4(1-\lambda_1) + 0.7(1-\lambda_1)^{0.85} + 3 & \text{for } \lambda_1 = 0 \\ 9\lambda_1^{0.8} - 3.5\lambda_1 + 1.5\lambda_1^{0.5} - 1 + 8.5(1-\lambda_1)^{0.7} - 4(1-\lambda_1) + 0.7(1-\lambda_1)^{0.85} + 3 & \text{for } 0 < \lambda_1 \le 0.3 \\ 9\lambda_1^{0.8} - 3.5\lambda_1 + 1.5\lambda_1^{0.5} - 1 + 8.5(1-\lambda_1)^{0.7} - 4(1-\lambda_1) + 0.7(1-\lambda_1)^{0.85} + 0.5 & \text{for } 0.3 < \lambda_1 < 0.4 \\ 9\lambda_1^{0.8} - 3.5\lambda_1 + 1.5\lambda_1^{0.5} + 0.5 + 8.5(1-\lambda_1)^{0.7} - 4(1-\lambda_1) + 0.7(1-\lambda_1)^{0.85} + 0.5 & \text{for } 0.4 \le \lambda_1 \le 0.5 \\ 9\lambda_1^{0.8} - 3.5\lambda_1 + 1.5\lambda_1^{0.5} + 0.5 + 8.5(1-\lambda_1)^{0.7} - 4(1-\lambda_1) + 0.7(1-\lambda_1)^{0.85} - 0.75 & \text{for } 0.5 < \lambda_1 < 0.8 \\ 9\lambda_1^{0.8} - 3.5\lambda_1 + 1.5\lambda_1^{0.5} + 2 + 8.5(1-\lambda_1)^{0.7} - 4(1-\lambda_1) + 0.7(1-\lambda_1)^{0.85} - 0.75 & \text{for } 0.8 < \lambda_1 \le 1 \\ 9\lambda_1^{0.8} - 3.5\lambda_1 + 1.5\lambda_1^{0.5} + 2 & \text{for } \lambda_1 = 1 \end{cases}$$

$$\Rightarrow \lambda_1^* = 0.3 \wedge \lambda_2^* = 0.7$$

Considering the results, the *relationship values* and their impacts cause different transaction shares: Whereas before 67% of the transaction shares were settled with Service Integrator 1, his attraction and (with it) his transaction shares have now dropped to 30%. In return, the shares of Service Integrator 2 rise to 70%. The impact of the *relationship values* is illustrated in Fig. 2. It shows the two net utility functions of both Service

Integrators 1 and 2 and the resulting cumulated utility for the customer (the x-axis represents the transaction share λ_1 and $\lambda_2 = 1-\lambda_1$, respectively). The figure shows that Service Integrator 1 loses dramatically in transaction shares despite a much higher impacts V^V with $1.5\lambda^{0.5}$ opposite $0.7\lambda^{0.85}$ of Service Integrator 2. This is mainly because of the partially lower impacts V^C and the different interval limits. In summary, it can be stated that the *relationship values* and their transaction-spanning impacts do not aim to "optimise" a single, isolated transaction in relation to a competing offer. In fact, they "honour" a more intensive or longer lasting interaction between customer and Service Integrator.
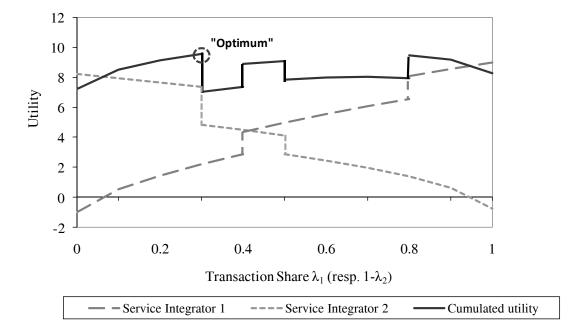

Fig. 2 Determination of the transaction shares in the case of two Service Integrators

Based on these results, the term *customer relationship* is defined as follows:

A relationship is established as part of the interaction between a customer and a Service Integrator (from the customer's point of view) if monetary and non-monetary values and their transaction-spanning impact cause an increase in transaction shares (and thus a more intensive or longer lasting interaction).

In particular, the relevance of monetary and non-monetary values (a sufficient criterion for a relationship) is given, in case that an inferior offer based on the net utility calculation of isolated transactions (see equation [1]) is nonetheless chosen by the customer. This customer's decision in favour of the inferior offer is due to the monetary and non-monetary values that outweigh the inferiority of the offered isolated transactions. However, if the interaction is determined by the net utility calculations of isolated transactions (see equation [1]), i.e. the monetary and non-monetary values and their transaction-spanning impact are not relevant to the customer's decision, the interaction is characterised as transaction-oriented and not as relationship-oriented.

What are the implications of this definition? If relationship values exist and are relevant, the customer will not decide on single transactions, but will rather try to optimise her/his benefit regarding parts of or the entire transaction volume. Single transactions lose their importance and the impact of the relationship values like trust, commitment or specific investments, leading to a change of the transaction shares. This result corresponds to other findings that the demand of products and services does not solely depend on price (e.g., price-demand-function), sales promotion, etc., but also on other factors, i.e. *relationship values* that aim at a more intensive and long-term relationship. From the Service Integrator's point of view the analytical model is of interest as well. The Service Integrator should analyse which relationship values the customers specifically prefer (e.g., to determine different customer types, according to Heinrich 2002). This preference has an impact on the benefits and costs the customer can realize from the relationship with the Service Integrator. The analytical model represents these impacts of the relationship values with the help of the parameters of the function V^V (e.g., the change coefficient v). From a conceptual point of view, this means that e.g. if two customer types have different preferences for the relationship value *monetary premium*, the impact of the monetary premium, and thus the change coefficient v, differs from each other.

Such an analysis can be used to support the decision – from an economic point of view – whether to concentrate on transaction-oriented or relationship-oriented customers. Purely transaction-oriented would mean to offer single transactions, for instance, with the lowest price for a product or a service (e.g., a bank with the lowest mortgages interest rate). On the other hand, a purely relationship-oriented Service Integrator concentrates on gaining transaction shares by means of relationship values if this is economically worthwhile for the Integrator. The above example can be taken to illustrate this: Let us assume that the Service Integrator 2 – instead of acting in a relationship-oriented manner (term [2]) – wants to realise purely transaction-oriented the transaction share $\lambda_2 = 0.7$. Initially, a purely transaction-oriented interaction only leads to a transaction share λ_2 of 0.33 (see above). Thus the Service Integrator 2 has to generate a higher net utility for the customer to increase the transaction share λ_2. Ceteris paribus, Service Integrator 2 may be successful in doing so, for instance, by increasing the utility $U(\lambda_2)$ for the customer, precisely by increasing the change coefficient (up to now this coefficient is given with 8.5) by a measure. In order to attain a transaction share of $\lambda_2 = 0.7$ in a purely transaction-oriented interaction, Service Integrator 2 has to increase the change coefficient to 12.4 according to term [1] and the associated optimisation. This would result in a transaction share of $\lambda_2 = 0.7$ as well as a net utility of $U(\lambda_2) - C(\lambda_2) = 12.4*0.7^{0.7} - 4*0.7 = 9.66 - 2.8 = 6.86$. If, in contrast, Service Integrator 2 acts in a relationship-oriented manner (see term [2]), the Integrator has to generate a net utility of $U(\lambda_2) - C(\lambda_2) + V(\lambda_2) =$

$8.5*0.7^{0.7} – 4*0.7 + 0.7*0.7^{0.85} + 0.5 = 6.622 – 2.8 + 0.517 + 0.5 = 4.839$ to attain a transaction share $\lambda_2 = 0,7$. Supposing that both net utilities are created by monetary measures (e.g., price and monetary premium respectively), the relationship-oriented interaction is economically worthwhile for the Service Integrator. This example illustrates that the management of relationship values can also make sense from a Service Integrator's point of view.

Designing relationship-specific processes

In this last section, it is suggested that the key mission of the Service Integrator is to establish relationship values and thus a lasting and intensive relationship. The goal of relationship processes that need to be designed is *to manage* such relationship values when interacting with the customer, which is the link between defining the construct *costumer relationship* and modelling *relationship-oriented processes*. But which particular actions does the umbrella term *"manage"* comprise? Below, the investigation of generic actions according to the relationship values leads to the identification of several relationship processes.

How to identify generic actions in CRM

(Nickols 1998) underlines that "(…) to identify (…) business processes (…) is an extraordinarily difficult undertaking." From the point of view of process modelling methods (Davenport 1993; Hammer 1996; Van Hee and Reijers 2000), deriving new (types of) processes is based upon outlining *visions*. Depending on the actual situation, this could be done creatively by using the know-how of experts, documented examples of innovative solutions of the same or another industry, or by using the potentials of new technologies. Gathering, for example, different opinions (of experts) is of great importance, which (naturally) is affected by subjective influences and thus often makes a systematic identification of new processes and especially of new relationship processes for Service Integrators difficult. And, as the existing literature on relationship processes shows (e.g. Rapp 2005; Swift 2001), only selected parts of the relevant expert knowledge appear to be available so that the outlining of visions cannot be based thereupon.

By contrast, the discussion of generic actions and goal-orientation is more systematic (e.g. Loos 1996; Soffer and Wand 2004). The concept of generic structures is based on the principle of abstraction. As for the generalisation and specialisation in data modelling, abstract structures or actions are to be determined. Generic actions are not subjected to concrete influence factors or specifications, and they allow for a simpler identification of new processes. In this context, the approach of (Malone et al. 1999), for example, is well-known; it describes the identification and usage of generic actions. In the context of developing a process modelling method (Process Handbook) and a modelling tool, the similarities and differences of several connected processes were examined.

In this context, (Malone et al. 1999) identified ten generic actions which allow for representing almost all different actions by generating their specialisations (actions which could not be assigned so far are referred to as "unclassified"). The generic actions are: *create, modify, preserve, destroy, manage, separate, combine, decide, use,* and *move*. (Zellner 2004) reduced the scope of these generic actions to the relationship-specific, generic actions *create, destroy, preserve, modify, separate, combine,* and *move*. These actions can be described as follows (Table 4):

Table 4 Description of the relationship generic actions

Generic Actions	Description
create	Depending on the specific customer, a relationship value is produced or intensified in its impact.
destroy	A relationship value is consciously or unconsciously reduced or destroyed.
preserve	A relationship value is maintained (over time).
modify	The type of relationship value is changed consciously or unconsciously, e.g. if another value appears to be more efficient from the Service Integrator´s point of view.
separate	Two or more relationship values are created out of one value, e.g. separation of trust and commitment (Morgan and Hunt 1999)
combine	Two or more relationship values merge into one new value.
move	A relationship value of customer i is extended onto another customer j (e.g. the Service Integrator uses recommendations to extend trust onto other customers).

How to specialise generic actions in CRM

So far different generic actions were identified and differentiated regarding the term relationship-specific. However, detailed description and modelling have not yet been achieved. Hence, the question arises how the generic actions can be specialised in a concrete situation that may occur within a customer relationship.

In section three, it was stated that the relevance of relationship values establish and maintain a relationship. In a first step, the Service Integrator has to analyse which relationship values to choose in order to generate benefits

for customers. Second, the Service Integrator has to determine which generic action should be combined and specialised with which relationship value. For instance, a generic action like *create* has to be combined with relationship values such as *"create trust"* or *"create commitment"*. Third, these combinations have to be adapted to the targeted customers; otherwise the relationship value will be worthless to those customers. And fourth, the Service Integrator has to investigate in which way network partners (e.g. Service Providers) can support the creation of certain relationship values. In further steps it is to be examined in which situations during the "life cycle" of the relationship the described actions are used and how they have to be specialised in a certain relationship situation (e.g. action *create trust* during the phase of *relationship acquisition* vs. *relationship recovery*).

This is of even more importance to the Service Integrator, who needs to focus on two specific types of relationships: the one with customers and the one with Service Providers. If a customer does not feel confident about the service or product bundle the Service Integrator offers, a feedback loop concerning the relationship with the Service Provider has to start and affect that relationship. So the complexity, compared to a two-party relationship, increases in this network situation and makes it more difficult for the Service Integrator to invest in these relationships.

(Homburg and Schäfer 1999) point out that the systematic utilisation of relationship values has a crucial influence on improving the prospects of success, e.g. for customer reactivation or win-back, since taking advantage of the customer's still existing goodwill (stemming from the past business connection) is of paramount importance for winning them back. An action like *create trust* obviously has to be deployed differently in the case of an acquisition where the customer or Service Provider is not known to the company and therefore has to be addressed with sensitivity than in a win back situation (relationship recovery), where the customer or Service Provider and the history of their past business connections are well-known.

Within such a business network the Service Integrator has to struggle with two issues: On the one hand, the Service Integrator tries to gain monetarily from the relationship to both customer and Service Provider. On the other hand, the Service Integrator also depends on the support of the Service Provider in running the entire business network.

In the literature, the phases of a relationship and relationship situations are discussed against the background of the life cycle concept (see Dwyer et al. 1987). Fig. 3 shows the ideal phases.
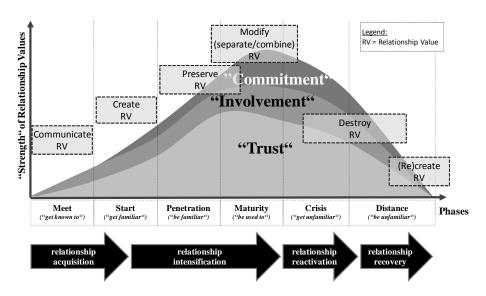
Fig. 3 Relationship life cycle and corresponding creation of selected relationship values (ideal) (Figure according to (Dwyer et al. 1987; Diller 1995; Stauss 2000) with own additions)

Regarding a simplified relationship life cycle, Fig. 3 shows that the phases *meet, start, penetration, maturity, crisis,* and *distance* can be distinguished: To each phase, selected situations (relationship acquisition, intensification, reactivation and recovery) can be assigned during which the Service Integrator gets active. For a selected customer type, for example, the creation of the relationship values *trust, involvement,* and *specific investment* is useful. This means that all necessary generic actions are to be specialised by means of the parameters *relationship value* and *relationship situation*.

Considering the above discussed trust-building activities (see Table 2), it becomes evident that some of the activities as for example launching references or founding analogies lend themselves to the initial phase of a relationship, whereas other activities such as the initiating of reciprocities cannot be utilised. Customer reports from customer protection organisations which highlight the "good quality of the products and services at a fair price" are good examples for references that can be used during the phase *relationship acquisition.*

However, since the phases and relationship situations are not clearly separated from each other (nor in the literature), an unambiguous allocation of the generic actions to individual phases is very difficult in practice. In Fig. 3, this allocation is exemplified. Here, in the phase of *relationship acquisition* it might be useful to first *communicate* the relationship values (preferred by the customers) the Service Integrator wants to serve and then to *create* those values to actually attract the customer. To separate the different phases, the (relative) strength of the relationship values depends on the interval and/or the phase. Therefore, further work will have to be done on defining the measurement and interval-creation by means of customer surveys and data mining.

Apart from these issues, the parameters *relationship value* and *relationship situation* provide a conceptual basis for specialising generic actions in order to design relationship processes. To illustrate this, in the following section, a selected process is examined assuming specific parameters of customer type, relationship value, and relationship situation.

Application: Design of a relationship process in a financial services network

In this section we give an example of how a relationship process can be designed for and applied in a financial services network. The example illustrated in Figure 4 focuses on an *indolent, calculating customer type* (according to Heinrich 2002), the relationship value *specific investment,* and a *relationship acquisition* situation (equal to the awareness and exploration phase according to Dwyer et al. 1987). The example is set in the financial services network consisting of one Service Integrator (bank), several Service Providers (e.g., assurance companies, real-estate agents), and customers (see Figure 4). To show how a relationship process can be used to support a customer process, the integration of the two processes is then illustrated by the example of the customer process "constitute home ownership" (see Fig. 5). Subsequently we give an example on how IS can support these processes within a network (see Fig. 6).

The *indolent, calculating customer* type is, above all, characterised by her/his monetary motives (Heinrich 2002), i.e. she/he can be attracted particularly by *specific investments* to establish or maintain a relationship. According to the transaction cost theory, investments are specific if they are worth less outside a relationship than within, which means that terminating the relationship would then end up in a loss for the actor (Williamson 1985). An example for a specific investment is the customised access to an online application (e.g. online banking), where the customer invests time and reveals information about her-/himself to establish an individualised environment that she/he would lose when terminating the relationship with the Service Integrator (e.g. bank). Hence that kind of specific investment will (to a certain degree) prevent the customer from terminating the relationship (Heinrich 2002).

For a representation of the relationship processes referring to a specific customer type it would be necessary to consider the relationship value *specific investments* throughout all of the relationship phases. To avoid unnecessary complexity in this paper, the example focuses on the *relationship acquisition* situation. If a Service

Integrator wants to activate a customer relationship, then the Service Integrator has to focus on, for instance, the process *create specific investments* to generate the considered relationship value.

The relationship process of creating specific investments in a financial service network

The goal of the process *create specific investments* must be to establish a new relationship by providing monetary values to the *indolent, calculating customer*. Depending on the specific network situation, it is not only the customer and the Service Integrator, but also several Service Providers that are involved in the process *create specific investments*. This is shown in Fig. 4, where this process – according to a *relationship acquisition* situation for the *indolent, calculating customer type* – is represented by a BPMN process diagram.
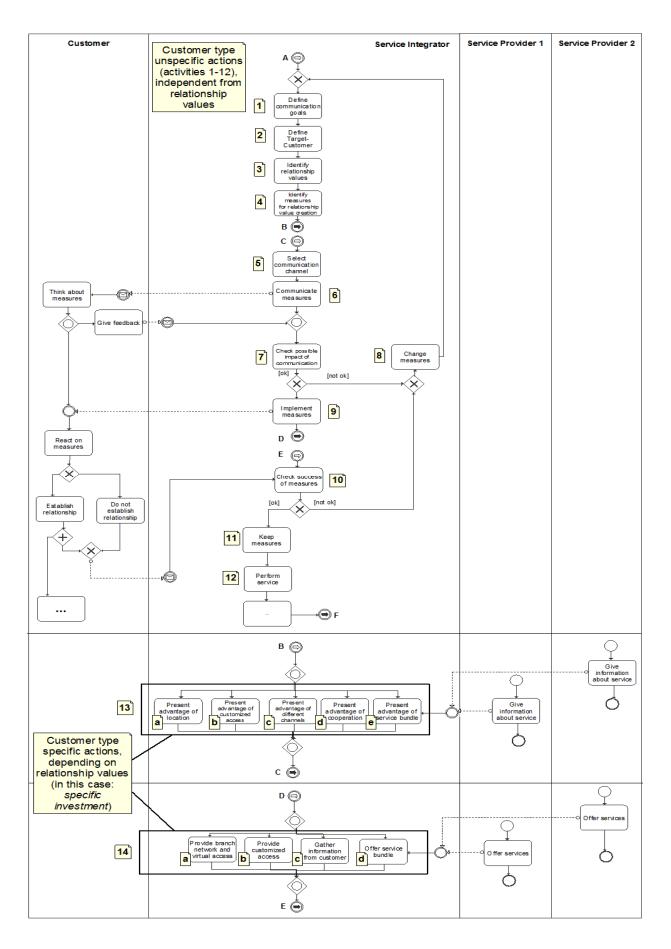
Fig. 4 Process "create specific investments" in a relationship acquisition situation within a network

According to (Zellner 2004) the relationship process in Fig. 4 combines both certain actions that are necessary within the relationship acquisition situation for each customer type (see activities 1 to 12 in Fig. 4) and specific actions depending on the customer type (see activities 13 a-e and 14 a-d in Fig. 4). Independently of the specific customer type involved, the Service Integrator should (in a relationship acquisition situation) define both the communications goals (e.g., information about its service bundle or image) and which customer type should be addressed and how this customer type can be attracted (activities 1 and 2, Fig. 4). In order to know how to attract a certain customer type, the customer's relationship values as well as corresponding measures for their creation must be identified (activities 3 and 4, Fig. 4). In the case of an *indolent, calculating customer type* measures for creating the relationship value *specific investment* have to be presented to prospective customers. For instance, these measures (see activities 13 a-e, Fig. 4) may highlight the advantages of the Service Integrator's service bundle (e.g., 24-7 access and availability to the service over the Internet) or the advantages of a customised online banking access. Other measures would be presenting the advantages of the cooperation with the Service Integrator (during a cooperation the Service Integrator gathers knowledge about the customer that can to be used to offer a valuable and customized bundle to the customer) or the advantage of the service bundle itself. To point out the convenient access to the service bundle, the advantage of different channels can be communicated. Then these measures can be communicated and conducted through different channels (e.g., TV spot, newspaper ad; activities 5 and 6, Fig. 4). If possible, the impact of communicating these measures should be analysed (e.g. by a customer survey) and if necessary, the measures should be changed or even a rethinking of goals and target customer types should take place (see activities 7 and 8, Fig. 4). After that, the measures must be conducted (see activities 14 a-d, Fig. 4). After implementing these measures, their success should be checked (activity 10, Fig. 4), if they were ok they should be kept (activity 11, Fig. 4) and the service should be performed (activity 12, Fig. 4). The markers B to E in Fig. 4 (*link intermediate events* in BPMN) show that depending on a certain customer type (and its relationship values) the Service Integrator has to perform different actions to manage the relationship.

The value of the process model (Fig. 4) is that the Service Integrator now is in a better position to adequately establish a relationship with a certain customer type. The process model can be used as a guideline in this case and gives advice how to act in the relationship acquisition situation regarding a certain customer type.

Using customer type specific actions for supporting the customer process "constitute home ownership"

In this section the relationship process *creating specific investments* is considered for the customer process "constitute home ownership". Therefore the customer type-specific actions (see activities 13 a-e and 14 a-d, Fig. 4) need to be integrated into the customer process, so that the Service Integrator is not only able to offer a service process that directly supports the customer process but also to create the relationship values for a certain customer type. This example is illustrated again for the *indolent, calculating customer type* the Service Integrator wants to establish a relationship with (relationship acquisition situation) by creating *specific investments*. From a customer´s point of view (left side of Fig. 5) the process "constitute home ownership" contains among other things the following steps (according to Heinrich 2002):

After being activated and motivated for constituting a home ownership the customer needs to select a possible cooperation partner (Service Integrator) that can provide the relevant service bundle. Then the customer formulates her/his needs and also checks the financial possibilities before choosing and buying home property. To attract the customer and establish an intensive relationship, the Service Integrator needs to support the single actions of the customer process (mid lane of Fig. 5) by offering a service bundle. Here, Service Providers must be integrated for certain tasks (right lane of Fig. 5). So in business networks that consist of Service Integrator, Service Providers and customers three possible relationships can be identified: the Service Integrator-Customer relationship, the Service Integrator-Service Provider relationship and the Service Provider-Customer relationship in cases of outsourcing directly certain tasks or services. These relationships are also based on relationship values that need to be managed well. In cases of outsourcing tasks or services the Service Integrator needs to make sure that the chosen Service Provider also knows and manages the relationship values of the target customers well to establish a lasting and intensive relationship. Therefore the Service Integrator will only choose Service Providers to collaborate with that are able and willing to act according to the customer's relationship. Because in cases where the Service Provider offers tasks or services directly to the customer, the Service Integrator can only influence the customer relationship values indirectly. For example, the Service Provider's activity "analyse housing situation" (see Figure 5) is an activity which is performed by the Service Provider (e.g. an interior designer) and requires direct contact with the customer. Therefore the Service Provider needs to know how to approach the specific customer type in accordance with its relationship values. In the case of the

indolent, calculating customer type the Service Provider then needs to perform customer-specific actions (see actions #13a to e, Figure 4) in accordance with its performed action of the service process ("analyse housing situation") to establish the relationship value *specific investments*. This could be managed, for example, by referring the customer to a good and/or famous interior designer she/he likes to work with and is proud of working with so that she/he does not want to terminate the relationship with the Service Integrator, because of fear of losing the relationship to the Service Provider (i.e. the interior designer) as well. The Service Provider's motivation to act Service Integrator-conform is to establish a lasting relationship with the Service Integrator. So the Service Providers need to be integrated in certain actions in the relationship life cycle of the customer and in creating customers relationship values (see Figure 3).

As the focus of the example is still on the relationship acquisition situation, the illustrated actions in Fig. 4 must be performed by the Service Integrator in order to *create specific investments* for the *indolent, calculating customer type* (customer type-specific actions in Fig. 4).
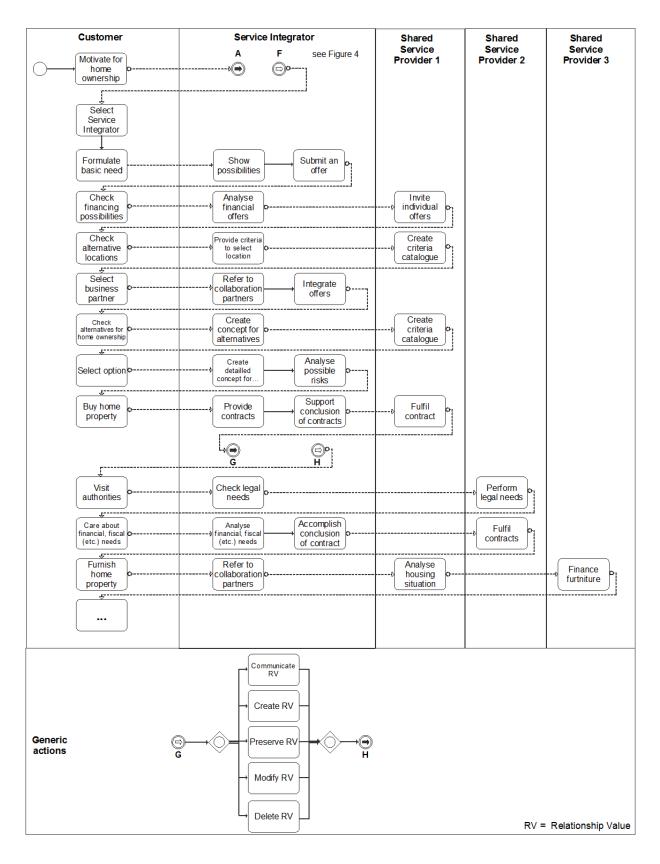
Fig. 5 Customer process "constitute home ownership" and its corresponding service process[2]

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[2] For simplification reasons this example contains no gateways or decision points.

The customer-type nonspecific actions of the process "*create specific investments*" (e.g., define communications goals, define target customer etc. (activities 1 to 12, Fig. 4) need to be performed before supporting a certain customer process and are therefore also linked to Fig. 5 via the markers A and F.

There is a certain point during the support of any customer process (in this case "constitute home ownership"), where the Service Integrator needs to decide whether to intensify the relationship with a specific customer, which means creating, preserving or modifying the customers relationship value(s) (here: specific investments) or to terminate the relationship (deleting relationship value(s)) as proposed in the relationship life cycle (see markers G and H, Fig. 5). This means also that, depending on the customer process and the relationship situation, the Service Integrator conducts different customer specific actions at different points of the customer process to influence the relationship. For example there is no need to *communicate* and/or *create specific investments* for the *indolent, calculating customer type* with which the Service Integrator has been in a relationship for several years. In the latter case actions for a *relationship intensification situation* (e.g. *keep* or *modify specific investments* (see Fig. 3) have to be assigned to the above customer process.

IS support for realising the processes

Using the above customer process (Fig. 5) the possibilities of IS support are demonstrated at the Credit Suisse bank example to point out the potential of realising the customer and service processes. Credit Suisse takes on the role of a Service Integrator within an established and stable business network of international Service Providers (e.g. OSEC, Swiss Export, ICC Switzerland etc.)[3], that allows to offer service bundles to the customer. Within this network Credit Suisse manages the customer contact. Credit Suisse also supports and serves the several phases of the customer life cycle (discover, establish, optimise, realise, enjoy)[4] and the corresponding customer processes with their products and services. One supported customer process during the phase *establish* is called "first home" [5], which is similar to the process in Fig. 5. It also answers and supports the customer's questions like "how much can I afford to spend on buying my home?" or "how can I find my dream home?" Credit Suisse uses IS support to operate the customer processes. As Credit Suisse's service process to support

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[3] https://www.credit-suisse.com/ch/unternehmen/kmugrossunternehmen/en/import_export/partnernetzwerk.jsp
[4] https://www.credit-suisse.com/ch/privatkunden/lebensphasen/en/index.jsp
[5] https://www.credit-suisse.com/ch/privatkunden/lebensphasen/en/aufbauen/wohneigentum/index.jsp

the customer process "first home" is confidential the service process from Fig. 5 is used to give an overview of the IS support possibilities from the Service Integrator's (Credit Suisse) point of view (see Fig. 6).
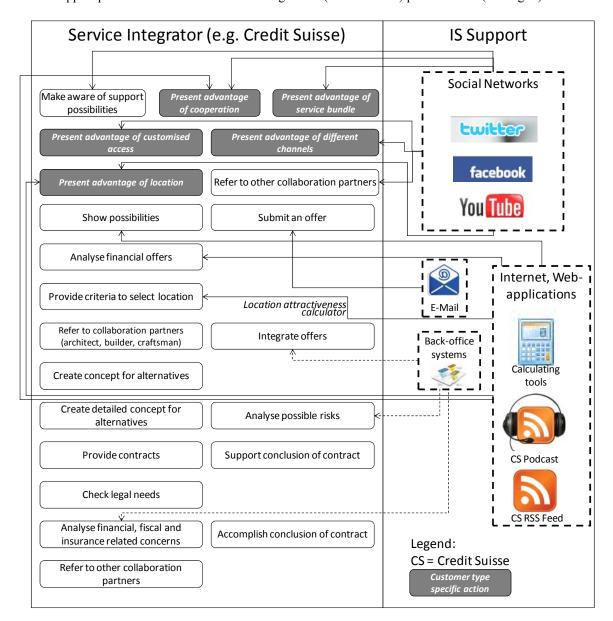

Fig. 6 IS support in business networks – the example of Credit Suisse

To communicate its relationship values Credit Suisse uses online social networks like Twitter, Facebook or You Tube[6]. In the case of the *indolent, calculating customer* type (reacting on *specific investments*) the use of online social networks can support the actions taken to present the advantages of the cooperation, the service bundle, the customised access, the location and different channels. For example, Credit Suisse uses You Tube to comment on financial market situations (e.g. interviews with their directing staff) or presents top investment

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[6] See https://www.credit-suisse.com/news/en/social_media.jsp.

ideas via this channel. On the one hand, this is an opportunity to show the potential customer that the bank acts to current events and, on the other hand, an opportunity to communicate the advantages of the offered service bundle and the advantages of a cooperation with the bank.

Online social networks can also be used to make potential customer(s) aware of support possibilities and to refer to other collaboration partners. RSS feeds and podcasts assist these actions. Web applications like calculating tools (e.g. mortgage calculator, budget calculator, tax calculator) support the customer in calculating her/his financial possibilities and in analysing the financial offers. The budget calculator, for example, helps the customer to work out her/his individual savings potential. The calculation is made from the customer's individual input regarding income, fixed expenses, household expenses and other expenses. The illustration of the attractiveness of the area is also supported by a web application and helps the customer to select the location of relevant properties. In this case the customer just types in the location (state or city) of her/his potential home and receives an analysis of the attractiveness of the location compared to other locations. Offers are submitted to the customer by email for instance. It is also possible (see dashed arrows in Fig. 6) that the activities "integrate offers", "analyse possible risks" and "analyse financial, fiscal and insurance related concerns" could be performed by an IS.

Using IS support during the service process, the Credit Suisse adds value for the customer. In the case of the Credit Suisse the acquisition situation is predominantly supported by social media.

Conclusion

This paper provides a first approach to a systematic design of relationship-oriented actions and processes. In doing so, the role of the Service Integrator in a business network is focused. The main characteristics are:

- A transaction-oriented interaction can be transformed into a relationship-oriented one by means of different, monetary and non-monetary relationship values according to specific customer types. Therefore, relationship processes of the Service Integrator must focus on the management of these values throughout the phases of the entire relationship life cycle.

- Generic actions were used to identify the relevant actions of the customer relationship management as completely as possible. In doing so, seven generic actions of particular importance could be identified that had to be specialised according to customer type, relationship value, and relationship life cycle situation to

design the relationship processes. By means of an example the process "create specific investments" is discussed in a relationship acquisition situation.

- The relationship processes have to be integrated into the service processes of the Service Integrator that directly support the customer processes. This was exemplified by using the customer process "constitute home ownership" showing that relationship processes help to manage relationship values in order to establish and maintain an intensive and lasting customer relationship.

- After designing the service process for a certain customer process, the possibilities of IS support need to be analysed to improve and perform efficiently the service process within the business network. This is illustrated by the Credit Suisse example.

The paper already addresses some critical aspects and highlights topics that have strong implications for future research. The specialisation and detailed analysis as well as the quality assurance (Becker et al. 2000) of relationship processes must have priority. Moreover, the following questions seem to be of special interest: Which are the criteria to identify the actual relationship life cycle phase the customer is in? How can the strength of the relationship values be measured? How can methods of data mining be helpful in this context? Considering the identified relationship processes: How can the present IS support of CRM systems be adapted and sensibly extended to improve their suitability for companies?

In summary, the developed approach has resulted in defining first steps not only to identify relationship processes but also to advance their goal-oriented design. In the context of the present discussion, both tasks seem to be necessary to advertise the idea of relationship-orientation, since otherwise the discussion runs the risk of being regarded as merely concentrating on restructuring the sales domain of companies.

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