Employee relationship management — Realizing competitive advantage through information technology?☆

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ABSTRACT

Employee relationship management (ERM) constitutes an emerging trend of managing human resources by building and maintaining individualized and mutually valuable relationships with employees based on information technology. However, given the early and still emerging state, there is little knowledge and agreement regarding ERM. Hence, the current paper attempts to clarify the concept and derive research implications. The formation and the strategic, processual and technological components of ERM are derived and discussed based on the Customer Relationship Management (CRM) concept that preceded it. As a result, a first general outline of an interesting and ambitious concept is presented. Based on the outline, major implications for further conceptual elaboration, theoretical foundation and empirical evaluation of ERM are derived to propose directions for future research.

1 . Introduction

For some time now, the set of suggestions on how to manage human resources has comprised an additional member named employee relationship management or ERM. Basically, ERM has been openly borrowed from the widely used Customer Relationship Management or CRM and aims at transferring principles of technology-based relationship building from the customer to the employee domain. A general definition hence understands ERM as "*… strategy, programs and technology to effectively manage how firms relate to prospective, current and former employees*" (Rogers, 2008, 48). Like any other new management concept, ERM is viewed as an advantageous approach that offers mutual values for employees and employers. Major values promised to employees are the greatest possible satisfaction of their individual needs, while the increased attraction, retention, motivation and performance of employees are values promised to employers (e.g., Keim & Fritsch, 2008; Schweitzer & Lyons, 2008; Wargborn, 2009).

So far ERM has mainly been propagated by practitioners such as consultants (e.g., Moss, 2007; Rowe & Tucker, 2006) and software vendors (e.g., Lermusiaux & Snell, 2005; Shapiro, 2007). In addition, there are a few organizations that seem to have already adopted some facets of ERM (see e.g., the results in Balthazard, 2006 and the examples in Rowe & Tucker, 2006). However, given its early and still emerging state, there is currently little knowledge and agreement regarding ERM. A commonly accepted definition is missing, and the rare explicit delineations are often vague or yield rather heterogeneous comprehensions, such as ERM as a certain strategy (e.g., Wargborn, 2009), as certain HR practices (e.g., Balthazard, 2006), or as certain HR information systems (e.g., Shapiro, 2007). Moreover, there are comparable terms, such as "talent relationship management" (e.g., Katoen & Macioschek, 2007), "human capital relationship management" (e.g., Rowe & Tucker, 2006) or "candidate relationship management" (e.g., Keim & Fritsch, 2008), although it is unclear whether these terms denote the same concept.

This current tension between the promises and the ambiguity of ERM clearly constitutes an unfavorable situation for both research and practice. On the one hand, a valuable idea for improving human resource management may be overlooked; on the

other hand, an insubstantial fad may be pursued. Hence, there is a need for conceptual clarification of ERM to decide whether and how it should be considered in future research and practice. The current paper therefore aims at offering a clarification of the concept by generating an *outline* of ERM and, subsequently, deriving *implications* for research. In the outline, the *formation* and the *components* of ERM are discussed and subsequently summarized in a *synopsis*. Given that ERM constitutes a frank analogy of CRM, these parts are derived from and compared with the formation and components of CRM. Subsequently, the *conceptual elaboration*, the *theoretical foundation* and the *empirical evaluation* are substantiated as major *implications* to offer guidance for future research.

2. Outline

2.1. Formation

Understanding the formation of a management concept as historic occurrence and development, the formation of ERM should constitute a first aspect for clarification — given that this elucidates the contextual settings and the respective motivations for the concept. Since the formation of ERM is explicitly based on the preceding formation of CRM (e.g., Keim & Fritsch, 2008), the formation of CRM is first briefly traced and then compared to the formation of ERM.

2.1.1. CRM formation
Tracking the formation of CRM requires going back about three decades to when relationship-orientation in marketing appeared as an alternative to the then prevailing transaction-orientation. Transaction-oriented marketing focused on offering standardized products/services in anonymous, passive and uniform mass markets. Thus, the main goal of marketing consisted of sale-transactions using conventional marketing methods (e.g., Grönroos, 1997). When markets became increasingly saturated and hyper-competitive, however, more and more buyer markets emerged; this created an increasingly precarious situation for many corporations. As transaction-oriented marketing was not able to satisfactorily cope with this situation, the suggestion was made to replace it with "relationship marketing", which is a concept that aims to build long-term relationships that are valuable for both customers and organizations (e.g., Berry, 1983; Grönroos, 1994). Thus "market pull" forces are cited as a first explanation for the formation of CRM. In addition, marketing-related information technology forged ahead. An ever-increasing range of customer-related data and functions was offered, and the advent of the Internet created previously unknown possibilities for communicating and interacting with an even larger number of distant customers (e.g., Paas & Kuijlen, 2001; Paulissen, Milis, & Brengmann, 2005). Given these possibilities, the idea of CRM as a technology-enabled realization of relationship marketing emerged. Initial CRM-systems were developed, continuously improved and increasingly adopted (e.g., Kotorov, 2003; Parvatiyar & Sheth, 2001). Hence, a second rationale for CRM was the "technology push".

CRM has since been widely adopted in practice and constitutes a well-established research area, and even the current "paradigm" of marketing research (e.g., Harker & Egan, 2006; Palmer, Lindgreen, & Vanhamme, 2005; Zablah, Bellenger, & Johnston, 2004). In generalizing the concept of CRM the idea of "general relationship management" is now being discussed. This idea states that firms should compete by developing and maintaining successful relationships with *all* of their stakeholders, i.e., with employees, suppliers, investors, etc. in addition to customers (e.g., Frow & Payne, 2009; Gummeson, 2002). Evidently, general relationship management asserts generalizable relationship management principles and not only suggests, but also postulates the transfer of the concept to the HR domain (e.g., Frow & Payne, 2009).

2.1.2. ERM formation
With the appearance of ERM roughly a decade ago the relationship management idea was occasionally picked up in practice and research. The fact that nearly every ERM contribution explicitly referred to CRM (e.g., Gillenson & Sanders, 2005; Keim & Fritsch, 2008; Schweitzer & Lyons, 2008) substantiates the importance of CRM in the formation of ERM. The existence of a widely implemented earlier concept thus clearly contributed to the formation of ERM, so this "conceptual push" constitutes a first explanation for ERM formation. Beyond this, however, there were and are remarkable parallels to the contextual settings of CRM formation. To begin with, severe changes in labor markets were expected based on demographic changes, and have partly already taken place. The shortage of qualified employees turned numerous labor markets into sellers' markets with a clear shift of power toward employees. This lack of crucial resources constituted an increasingly precarious situation for more and more corporations, and there was clear doubt in practice as to whether conventional HR concepts would be able to cope with it successfully (e.g., Michaels, Handfield-Jones, & Axelrod, 2001; Rowe & Tucker, 2006). As was the case with the formation of CRM, the formation of ERM can thus be explained by "market pull". Moreover, HR information technology made progress, as well, and an increasing amount of data and functions became available. Likewise, the increasing opportunities for communicating and interacting with employees via the Web led to the development of "electronic HRM" (e.g., Stone & Lukaszewski, 2009; Strohmeier, 2007), and claims were made to utilize corresponding technologies, such as self-service, to realize relationship management in HR (e.g., Dorgan, 2003; Wilky & Christie, 2000; Yang, Stafford, & Gillenson, 2011). Again paralleling the formation of CRM, a "technology push" furthered the idea of ERM as well. In contrast to CRM, however, ERM is neither being frequently put into practice, nor is it widely researched.

2.2. Components

The term "components" refers to the different elements that constitute a specific management concept. Of course, knowledge of the design of and the interdependency between such conceptual elements is vital for the clarification of the concept. To clarify major ERM components, individual CRM components are examined and subsequently applied to the HR domain. The literature in this instance reveals a heterogeneous understanding of what the components of CRM are, however, there are different attempts to create a comprehensive common understanding by viewing CRM as a specific *strategy* which is operationalized through corresponding *processes* and realized through corresponding *information systems* (Boulding, Staelin, Ehret, & Johnston, 2005; Chan, 2005; Frow & Payne, 2009; Paas & Kuijlen, 2001; Parvatiyar & Sheth, 2001; Paulissen et al., 2005; Zablah et al., 2004). Hence, strategy, processes and information systems constitute three interrelated conceptual components, which are elaborated in more detail below.

2.2.1. Strategy

Introducing both concepts the following section elaborates on the strategy component of CRM and subsequently derives major characteristics of ERM as a strategy.

2.2.1.1. CRM strategy. It is commonly emphasized that CRM should be understood as a clear strategic endeavor — either as a comprehensive customer strategy (e.g., Payne & Frow, 2005) or even as an entire business strategy (e.g., Kotorov, 2003). Owing to the contextual settings of its occurrence this strategy is aimed at building long-term *mutually valuable relationships* between an organization and its customers: "*The core of CRM is the (…) dual creation of value.*" (Boulding et al., 2005, 159; see also Frow & Payne, 2009; Zablah et al., 2004). The rationale behind this is as follows: in saturated markets with increasingly demanding customers success can no longer be assured by focusing on products and transactions alone; instead, customers and their specific needs must also be carefully considered. As is expressed in the largely overlapping principles of "personalization" (e.g., Jackson, 2007; King & Burgess, 2008), "mass customization" (e.g., Paas & Kuijlen, 2001; Pine, 1993), and "one-to-one" orientation (e.g., Peppers & Rogers, 1993; Zablah et al., 2004) the consistent *individualization of relationships* constitutes the key principle for realizing mutual value. To generate authentic value, customers must now be treated as distinct and unique individuals with distinct and unique needs, rather than as an anonymous, homogeneous mass. Creating individual value for customers should then contribute to their attraction as well as their retention — two particularly crucial aspects in saturated, highly competitive markets. In this respect, customer value is conceptualized in a broad sense, referring not only to the value created directly by products and corresponding services, but also indirectly by considering the psychological and social needs of the customer.

By creating genuine customer value, organizations create a satisfied and therefore loyal customer base, which in turn creates organizational value through repeat purchases by those customers and recommendation of the company to others. Hence, organizations that succeed in creating genuine value for customers realize a competitive advantage compared to organizations that only focus on simply selling as much product as possible (e.g., Boulding et al., 2005; Payne & Frow, 2005). In increasingly strained markets such relationships should not only be established with current customers, but also with former and potential customers (e.g., Payne & Frow, 2005; Zablah et al., 2004). However, this strategy should only be used with customers for whom the organization can actually create value, and who, in turn, are actually able to create value for the organization (e.g., Grönroos, 1994; Zablah et al., 2004).

In summary, CRM initially represents a specific strategy, i.e., an overall plan for establishing a favorable market position for the entire organization. Since this is only a "generic" strategy organizations must refine and customize for their specific situation and requirements (e.g., Zablah et al., 2004). The strategic status clearly underlines the extent and ambition of the concept as opposed to a mere operative or tactical understanding, such as the frequent misunderstanding of CRM as an operative IT project (e.g., Frow & Payne, 2009). The strategic component is therefore seen as crucial, and the failure to create a clear-cut strategy constitutes the main reason for the failure of CRM projects (e.g., Chan, 2005; Frow & Payne, 2009).

2.2.1.2. ERM strategy. Concerning ERM there are reasonable arguments for conceptualizing ERM as an HR domain strategy (e.g., Moss, 2007; Rogers, 2008). Only a strategic comprehension of ERM will meet the scope and ambition of the concept and avoid the drawbacks of operative misunderstandings of ERM as a mere IT implementation project.

Referring to the mentioned labor market settings it should be noted that the objectives of the strategy analogously lie in long-term *relationships of organizations and employees which create mutual value* (e.g., Schweitzer & Lyons, 2008). Again, the consistent individualization of these relationships constitutes the key principle of value creation, and there are clear calls for "personalization" (e.g., Gillenson & Sanders, 2005), "mass customization" (e.g., Rowe & Tucker, 2006) or "one-to-one" orientation (e.g., Wilky & Christie, 2000) in ERM. Considering individual employee needs carefully, and thus creating genuine employee value, will contribute to the attraction and retention of qualified employees — even and particularly in increasingly strained labor markets (e.g., Rogers, 2008; Keim & Fritsch, 2008). Moreover, this should also clearly strengthen employee motivation and performance (e.g., Cameron & Miller, 2008; Wargborn, 2009). In this respect, employee value should also be conceptualized in a broad sense. In addition to the economic needs (e.g., salary, bonuses, benefits) of employees, their psychological (e.g., self-actualization, competence, achievement) and social (e.g., recognition, relatedness, trust) needs require thorough consideration, as well (Schweitzer & Lyons, 2008).

By providing genuine value for individual employees, organizations can create a satisfied and therefore loyal workforce that will in turn create organizational value through continuous motivation and performance. ERM should therefore provide

organizations with a competitive advantage in relevant labor markets, but beyond that, also in their generic markets. Anticipating serious labor market shortages, such relationships should not only be built with current employees, but should also be sought with former employees ("alumni") and potential employees ("candidates"). Again, relationships should be established selectively only with those individuals who are actually able to create value for the organization and whose needs can actually be met by the organization (e.g., Gillenson & Sanders, 2005; Schweitzer & Lyons, 2008). Obviously, this strategy not only corresponds directly to the CRM strategy but also brings to mind the "human relations" concept which – though somewhat faded from prominence – is aimed in a very similar fashion at positive relationships with employees by considering their socio-psychological needs (e.g., Miles, 1965; Roethlisberger & Dickson, 1939).

As a first component, ERM can therefore be understood as a specific HR strategy, and thus as an overall plan to gain competitive advantages in relevant labor markets, and beyond also in general markets. Being a "generic" strategy, ERM must be customized by the organizations that adopt it.

2.2.2. Processes

Having elaborated on the strategy component, the following section deals with CRM processes as an operationalization of CRM strategy, and, based on this, develops an understanding of ERM processes necessary to operationalize ERM strategy.

2.2.2.1. CRM processes. Since reaching the objectives of a strategy depends largely on an effective operationalization, a second closely related component of CRM is processes, which are understood as a set of related successive activities that have to be performed to achieve individualized, mutually valuable relationships. As a basic principle, all CRM processes should be consistently individualized. For instance, instead of flooding customers with mass-mailing ads in marketing, only highly selective offers that are specifically geared toward the interests of individual customers should be advertised. In this way, homogeneous mass activities have to consistently be replaced with customized measures (e.g., King & Burgess, 2008; Paas & Kuijlen, 2001).

To determine reasonable processes, existing categorizations use the textual area of processes to distinguish *marketing*, *sales* and *service* as process domains (e.g., Ngai, 2005; Parvatiyar & Sheth, 2001), while additionally specific process features are used to distinguish *collaborative*, *operational* and *analytical* activities as process characteristics (e.g., Chan, 2005; Paas & Kuijlen, 2001). The combination of process domains and process characteristics as categorization criteria offers an instructive categorization of CRM processes, which hence is employed in the following (see Fig. 1).

Collaborative processes refer to all ("front office") activities in marketing, sales and service that involve customer interaction. Since the building and maintenance of individualized relationships with customers inherently involves ongoing interactions, the CRM strategy requires direct collaboration. "Collaboration" emphasizes the active role of the customer (e.g., Gummeson, 2002). In marketing, for instance, instead of passively receiving ads, customers should actively collaborate by identifying the type and content of the individual offers they are interested in. To achieve collaboration, different direct modes ("touch points", such as customer centers) and mediated modes ("channels", such as e-mails) are distinguished (e.g., Chan, 2005; Payne & Frow, 2005). Following the principle of individualization, every customer should basically be offered the mode(s) he or she prefers. For instance, if a customer dislikes being contacted by telephone, this channel should, of course, not be used (even for offers that are welcome). If multiple collaboration modes are offered they have to be carefully coordinated to avoid disruptions — especially if customers switch between different modes during collaboration (e.g., Chan, 2005; Payne & Frow, 2005). In brief, the purpose of collaborative CRM is to offer coordinated collaboration options and use them for the ongoing collaboration with customers.

Operational processes refer to all administrative ("back office") activities in marketing, sales and service that do not involve direct customer interaction. Maintaining individualized, mutually valuable relationships of course entails many operational activities that are directly founded on the CRM strategy. Within marketing, for instance, an individualized direct-mailing campaign requires performing certain tasks, such as printing and mailing the material. In this way, operational CRM refers to the completion of manifold administrative tasks.

Finally, *analytical processes* refer to the collection, preparation and provision of in-depth information used to support decisions in marketing, sales and service (e.g., King & Burgess, 2008; Zablah et al., 2004). Resulting from the strategy, particular information needs to relate to individual customer preferences with regard to operations and collaborations, the history of individual customer collaborations and operations, and reasonable future customer operations and collaborations. For example, marketing

		process domain		
		marketing	sales	service
process characteristics	collaborative	*e.g.* individualized product offer mailing	*e.g.* individualized product advice	*e.g.* joint recording of product problems
	operational	e.g. printout of advertising material	*e.g.* processing of customer invoices	*e.g.* product maintenance
	analytical	*e.g.* prediction of customer channel preferences	*e.g.* prediction of customer product preferences	*e.g.* prediction of customer maintenance requirements

Fig. 1. Categorization of CRM processes.

would obviously profit from having in-depth information about individual customers' preferences, the history of individual customer contacts and, in particular, reasonable future individual customer offers and collaborations. Within the frame of analytical CRM, then, a larger set of specific analyses – salient examples are churn, shopping cart or customer lifetime value-analysis – was established to satisfy these information needs (e.g., Torggler, 2009). Briefly, all operational and collaborative decisions in marketing, sales and service should be based on adequate information, and analytical CRM is responsible for providing it.

In summary, as a basic principle the strict individualization of all CRM processes is seen as the crucial precondition of generating customer value. Using the combination of process domains and process characteristics offers an instructive categorization of the overall activities necessary for CRM. Firstly, the process domains of marketing, sales and service uncover that CRM aims at a comprehensive and integrated consideration of all customer related activities. Secondly, the process characteristics uncover that each of these domains is to be realized via collaborative, operational and analytical activities. Since the integrated handling of all resulting process segments offers a general instruction on how to reach the strategic objective of creating individualized customer value, CRM processes *operationalize* CRM strategy, and, hence, constitute a second interrelated conceptual component.

2.2.2.2. ERM processes. ERM strategy also requires specific processes that offer operational measures to achieve the objective of individualized, mutually valuable relationships. There is latent dissent in the current literature regarding the question of which processes are reasonable for ERM initially. A first group exclusively focuses on *recruiting* (e.g., Keim & Fritsch, 2008; Lermusiaux & Snell, 2005; Moss, 2007), which explains the term "*candidate* relationship management". By contrast, a second group focuses on all customary HR domains, i.e., beyond *recruiting* also *development*, *compensation*, etc. (e.g., Dorgan, 2003; Rogers, 2008; Schweitzer & Lyons, 2008). Since only this broader view considers all facets of the concept it is subsequently pursued as "ERM", while "candidate relationship management" is seen as a domain-specific sub-concept. Basically, the domains of recruiting, development, compensation, etc. of course constitute familiar HRM functions. However, due to the individualization principle, the major difference lies in the customization of all activities toward single employees. In development, for example, career paths have to be individualized for each employee rather than offering uniform career paths and may therefore also include unique elements. For example this might include a temporary assignment at an Italian subsidiary for an "Italophile" employee or an individual career path that accommodates a planned parental leave for an employee who has a desire to have a child. Following the categorization of CRM, beyond process domains additionally process characteristics, i.e. the distinction of collaborative (e.g., Rowe & Tucker, 2006), operational (e.g., Keim & Fritsch, 2008) and analytical (e.g., Schweitzer & Lyons, 2008) activities, are suggested for categorizing ERM processes. The combination of domains and characteristics as categorization criteria hence offers an instructive possibility to categorize ERM processes as well. Therefore this categorization is used in the following (see Fig. 2).

Collaborative processes refer to the interaction between organization and employees in recruiting, development, compensation, etc. — things that are required for building and maintaining the intended relationships. "Collaboration" emphasizes a far more active role for employees, who are empowered to co-decide on the activities related to them (e.g., Rowe & Tucker, 2006). In development, for instance, career paths are collaboratively determined to balance organizational needs and individual preferences. Collaboration thus indicates a basic change from performing activities *to* employees to performing activities *with* employees. Again it has to be decided which direct (e.g., employee support desk) and mediated (e.g., employee self service) collaboration modes to offer, while the individualization principle involves offering the modes preferred by a specific employee (e.g., Dorgan, 2003; Moss, 2007). Offering diverse alternative collaboration modes again requires a careful coordination of modes in order to avoid disruptions when modes are switched.

Operational processes refer to all administrative activities related to recruiting, development, compensation, etc., as required by the strategic aim of the concept. The main difference between this and current operational HR activities lies in the consistent orientation toward individual employees. In operative compensation, for example, payroll processing changes from calculating identical salary components to calculating different and even unique components for each employee.

		process domain		
		recruiting	development	compensation	…
process characteristic	collaborative	*e.g.* communication of personalized corporate news to alumni	*e.g.* joint specification of individual career paths	*e.g.* joint specification of individual benefit components	…
	operational	*e.g.* printout of invitations for interview	*e.g.* composition of training course catalog	*e.g.* processing of employee payrolls	…
	analytical	*e.g.* prediction of applicant job preferences	*e.g.* recommendation of individual training courses	*e.g.* prediction of future compensation components requests	…

Fig. 2. Categorization of ERM processes.

Finally, *analytical processes* refer to the collection, preparation and provision of the in-depth information required to support decisions in operational and collaborative ERM (e.g., Lermusiaux & Snell, 2005; Rowe & Tucker, 2006). Major information needs to refer to individual employee preferences, to the history of individual operations and collaborations and, in particular, to reasonable future operations and collaborations. For instance, operational and collaborative recruiting will obviously profit from information concerning concrete preferences (e.g., working conditions, pay, career), the complete contact history (e.g., channels, participants, results), and suggestions for reasonable future activities (e.g., invitation to a recruiting event, information about a future vacancy) relating to a specific candidate. Given this fact, ERM obviously requires broad and deep information that is not offered by current analytical activities and therefore has to be provided based on complementary data and advanced analysis methods (e.g., Strohmeier & Piazza, 2010).

In brief, ERM processes are comprised of collaborative, operational and analytical activities within the familiar, however consistently individualized HR domains. In this way, ERM processes *operationalize* ERM strategy and thus constitute a second, closely interrelated ERM component.

2.2.3. Information systems

Completing the discussion of conceptual components, the following section presents the features of information systems, which are used as "enabling technology" to realize CRM processes, and, based on this, elaborates on features of information systems, which are necessary as "enabling technology" to realize ERM processes.

2.2.3.1. CRM (information) systems. In order to achieve the intended objectives the respective CRM processes require an efficient realization. Given the type and scope of the activities suggested, the use of suitable information systems is an obvious, even indispensable choice (e.g., Chen & Popovich, 2003; Parvatiyar & Sheth, 2001; Chan, 2005).

To begin with, the need for ongoing collaboration with numerous, mostly distant and dispersed customers demands information technology support. Hence, current CRM systems offer a larger set of *collaborative functionalities*, such as tools for realizing and administering special collaborative units ("customer interaction centers") or for managing and maintaining all customer contacts across different touch points and channels in a coordinated way. Among the technological channels in particular, web-based collaboration ("e-commerce") plays an outstanding role and is therefore widely supported (e.g., Torggler, 2009). Web-based product support is one notable example of collaborative service.

In addition, since the individualization of operational activities in marketing, sales and service clearly boosts operational effort, there is an urgent need for efficient implementation. As a consequence, CRM systems offer a broad spectrum of *operational functionalities* that are commonly subsumed under the categories of marketing, sales and service automation (e.g., Torggler, 2009). Within these categories the extensive mass customization of activities constitutes a crucial general functionality. The mass customization of advertising content allows the generation of individualized mailing ads, to give but one example within operational marketing.

Naturally, the analytical processes also require advanced information systems support, so CRM systems offer sophisticated *analytical functionalities* (e.g., Chan, 2005; Torggler, 2009). Beyond merely ascertaining and querying relevant data, advanced "predictive" analytics are offered, which not only describe but also predict relevant phenomena and recommend suitable activities (e.g., Chen & Popovich, 2003; Paas & Kuijlen, 2001). A simple example: in analytical sales the "shopping cart" analysis constitutes a familiar predictive analysis that is used to inform about customers' specific product preferences and to recommend individual product offers.

In summary, CRM systems comprehensively map CRM processes (for a deeper delineation e.g., Torggler, 2009). Since the processes cannot be implemented efficiently without corresponding CRM systems, these are compulsory "enablers" of CRM (e.g., Chen & Popovich, 2003; Chan, 2005). In this way, CRM systems offer the necessary *realization* of CRM processes, and with it, the underlying CRM strategy. CRM systems thus constitute the third closely interrelated conceptual component of CRM. CRM therefore represents a management concept based on information systems as a compulsory "realization" component, while CRM, of course, cannot be reduced to CRM systems (e.g., Payne & Frow, 2005; Zablah et al., 2004). By now, there is a voluminous market of prepackaged, yet customizable CRM systems. These are either implemented as a single CRM system or as a set of interrelated systems that offer the necessary functionality (e.g., Paulissen et al., 2005; Torggler, 2009).

2.2.3.2. ERM (information) systems. Paralleling CRM, ERM processes need to be implemented efficiently as well. Given that type and scope of depicted processes are not suitable for "manual" processing information systems thus again are an indispensable "enabler" of ERM, what is to be discussed in the following.

Initially information systems have to offer *collaborative functionalities*, which are necessary for the ongoing interaction with numerous employees. Again, these functionalities should refer mainly to the systematic administration of relationships — for instance, with tools for managing specialized collaborative organizational units ("employee interaction centers"). In addition to the administration of collaboration, specific technical channels for collaboration have to be offered. Due to its broad potential for application as well as its high efficiency, web-based collaboration plays an important role, and there are clear calls for using existing e-HRM technologies to realize collaboration in ERM (e.g., Dorgan, 2003; Wilky & Christie, 2000; Yang et al., 2011). A prominent example: employee self-service functionalities (e.g., Marler & Dulebohn, 2005) could be used to efficiently implement the intended empowerment of employees (e.g., Hamerman, 2002). In sum, ERM systems must provide collaborative functionalities to offer, administer and coordinate different modes of collaboration with employees.

Operational functionalities basically resemble the functions of current HRIS, while the individualization of activities in recruiting, development, compensation etc. constitutes a peculiarity. Because individualization is crucial for success on the one hand, but, unfortunately, boosts operational effort on the other hand, a largely automated ("mass") customization is necessary. In compensation, individualization can, for example, mean offering a broader range of different compensation components to meet differing individual expectations. These components have to be offered, arranged, administered, etc. mostly automatically using a compensation automation module. In this manner, ERM systems are necessary to systematically automate the respective individualized operational activities.

Finally, *analytical functionalities* should provide the required in-depth information concerning employee preferences, historic collaborations and operations and recommended future collaborations and operations (Dorgan, 2003; Rowe & Tucker, 2006). It is obvious that analytical functions in particular demand information systems support. Compared to current HR analytics (e.g., Strohmeier & Piazza, 2010), the intended predictive and recommendatory analyses constitute innovations. Within analytical development, for instance, the automated recommendation of an individualized set of successive training measures and job assignments for each employee constitutes an example of a reasonable recommendatory analysis. In this way, all operational and collaborative decisions within all domains have to be supported by corresponding analytics.

In summary, ERM (information) systems must map ERM processes systematically in order to carry out the necessary processes. Since the type and scope of the respective activities preclude "manual" processing, ERM systems constitute indispensable "enablers" of ERM (e.g., Lermusiaux & Snell, 2005; Rowe & Tucker, 2006). Providing the necessary *realization* of ERM processes, and with it, of the underlying ERM strategy, they thus constitute the third interrelated component of ERM.

Compared to previous HR approaches, this is the first time a concept has been suggested that requires the use of information systems as compulsory "realization component". Again, however, ERM systems should not be equated with the entire concept. The obvious technology orientation of ERM indicates its close affiliation to e-HRM. Understanding e-HRM as a concept that uses information technology for both networking and supporting different actors in their shared performing of HR tasks (Strohmeier, 2007) allows us to classify ERM as one peculiar way of implementing e-HRM. Compared to the currently often technology-driven views of e-HRM, ERM explicitly adds a processual and strategic dimension to the discussion and therewith points out some promising opportunities for the future development of e-HRM.

Arguably, there are already diverse offers of ERM systems (e.g., Hamerman, 2001, 2002; Rogers, 2008; Yang et al., 2011). However, given the heterogeneous understanding of ERM, existing systems have to be carefully evaluated based on actual functionalities rather than on mere designation. A prominent ERM system (Siebel, as described in Oracle, 2009) serves as an example to clarify this. A comprehensive web-based employee self-service is offered as a major collaborative functionality, and this channel can be broadly individualized. With this, a crucial collaboration option is offered, however, potential additional channels and touch points, as discussed above, are not available. Referring to operational functions, it is mainly the domains of competency management, performance management and employee development that are automated. This means first of all that not all domains required by the concept, for instance, recruiting, are supported. Moreover, there are no options to further individualize these domains. In particular, this aspect indicates substantial differences in the comprehension of ERM — given that individualization constitutes the core principle of creating employee value in the above description. Finally, broader analytical functions are offered as well via query-based charts, tables, and alerts, among others. However, predictive and recommendatory functions – such as recommending suitable actions for individual employees – are not available. In this way, systems presented under the ERM label may offer some of the ERM functions demanded above, while other, possibly crucial ERM features may not be available. As a consequence, it must be evaluated on a case-by-case basis whether a system offered actually contributes to the strategic objective of mutually valuable relationships and the resultant managerial responsibilities of ERM. In any case, the market for ERM systems seems to still be in the developmental stage, and a broader availability of systems that comprehensively support the concept should not be assumed without further investigation.

2.3. Synopsis

Based on the above, a verbal synopsis that allows us to compare major aspects of CRM and ERM and to derive concrete definitions can be offered (see Fig. 3).

Initially, the major terms to designate both concepts are presented. These mostly refer to the respective concept as a whole, yet "candidate relationship management" denotes a specific sub-concept of ERM oriented toward the recruiting domain. Relating to the respective formation both concepts resemble in constituting reactions to "market pull" and "technology push" forces. In addition, as a consequence of its advanced and well established state, CRM doubtlessly constituted an additional "conceptual push" for ERM. Both concepts are to be understood as clearly strategic endeavors that aim at competitive advantages on respective markets. While CRM aims at competitive advantages in the general market, ERM aims at advantages in labor markets (based on increased attraction and retention of employees) and subsequently in general markets as well (based on increased motivation and performance of employees). The major principle of yielding these competitive advantages in both concepts is building and maintaining individualized mutually valuable relationships with selected individuals of the respective target group. Both concepts are likewise based on collaborative, operational and analytical processes, which, of course, refer to different process domains of the two corporate areas. In CRM these are marketing, sales and service, while in ERM the entire set of HR functions such as recruiting, development and compensation are relevant. For an efficient realization of processes both concepts are reliant on corresponding information systems, which serve as "enablers" of concept. To map and support the respective processes integrated collaborative, operational and analytical functionalities are to be offered by the respective systems categories. In both

corporate areas it is the first time a concept requiring the use of information systems as an important realization component has been suggested. Based on the synopsis, concrete definitions of both concepts can be derived. These refer to strategy, processes and information systems as *interrelated* components — given that strategy is operationalized by corresponding processes, while processes and strategy are realized by corresponding information systems.

The final definition of ERM as *the strategy of building and long-term maintaining individualized mutually valuable relationships with selected former, current and potential employees, which is operationalized through collaborative, operational and analytical processes and realized through the collaborative, operational and analytical functionalities of information systems* offers a first comprehensive understanding of the concept, which can be finally visualized in a graphical synopsis (see Fig. 4).

3. Implications

With the above elaboration of ERM the outline of an emerging concept for managing human resources electronically becomes visible. However, as this treatise is far from being comprehensive, the need for deeper research becomes obvious, as well. In particular, the conceptual elaboration, theoretical foundation and empirical evaluation of ERM constitute three major interdependent areas of future research.

		CRM	ERM
related terms		Customer Relationship Marketing, Relationship Marketing	Candidate / Talent / Human Capital Relationship Management, Internal Relationship Marketing
formation		caused by market-pull (saturated, hyper-competitive markets) and technology-push (increase of data, functions and channels) starting three decades ago / well established	caused by concept-push (CRM as "blueprint"), market-pull (increasingly strained labor markets) and technology-push (increase of data, functions and channels) starting one decade ago / still emerging
components	strategy	generic overall plan for establishing a favorable market position by building and long-term maintaining *individualized mutually valuable relationships* with selected former, current and potential customers	generic overall plan for establishing a favorable labor market and beyond also general market position by building and long-term maintaining *individualized mutually valuable relationships* with selected former ("alumni"), current and potential ("candidates") employees
	processes	interrelated set of individualized collaborative, operational and analytical activities in marketing, sales and service, which *operationalizes* strategy	interrelated set of individualized collaborative, operational and analytical activities in recruiting, compensation, development, etc., which *operationalizes* strategy
	information systems	software application(s) that provide(s) individualized collaborative, operational and analytical functions in marketing, sales and service and therewith *realize(s)* processes and strategy	software application(s) that provide(s) individualized collaborative, operational and analytical functions in recruiting, compensation, development, etc. and therewith *realize(s)* processes and strategy
definition		CRM is ■ the *strategy* of building and long-term maintaining individualized mutually valuable relationships with selected former, current and potential customers, ■ which is operationalized through collaborative, operational and analytical *processes* and ■ realized through the collaborative, operational and analytical functionalities of *information systems*.	ERM is ■ the *strategy* of building and long-term maintaining individualized mutually valuable relationships with selected former, current and potential employees, ■ which is operationalized through collaborative, operational and analytical *processes* and ■ realized through the collaborative, operational and analytical functionalities of *information systems*.

Fig. 3. Verbal synopsis and definition of CRM and ERM.

3.1. Elaboration

Despite the general ERM outline developed above the concept is still in its "embryonic" phase — especially if compared with the advanced state of CRM. Hence, in order to understand it better and develop it further, an elaboration of ERM must clearly be the first task for future work.

This elaboration should first refer to potential streams and accentuations of the concept. In this respect, ERM should be systematically classified into a general relationship management approach (e.g., Egan, 2003; Frow & Payne, 2009) in order to identify commonalities and peculiarities of ERM compared with other relationship management concepts. Also, the potential segmentation of ERM into sub-domain concepts such as "candidate relationship management" in recruiting (e.g., Keim & Fritsch, 2008) or "learner relationship management" in development (e.g., Simmons, 2005) needs deeper consideration with regard to possible commonalities and peculiarities.

The need for further elaboration, secondly, refers particularly to the ERM components. Refinements of the strategy component, for instance, may reveal differing varieties, such as those related to different labor market segments. Processes refinement refers to manifold concretizations to determine which concrete analytical, operational, and collaborative activities are to be performed and how. In this respect, the development of a deeper understanding of the individualization (customization, personalization) of HR activities constitutes an especially pressing task for the future. Finally and in particular, the technological component needs refinement. This refers to aspects such as requirements engineering (elaborating concrete functionalities needed), market analysis (elaborating concrete functionalities already offered) and systems design (developing innovative ERM prototypes).

One way to further elaborate on ERM is to keep learning from CRM, given its advanced and well-researched state. The transfer of conceptual elements from CRM to ERM, however, should be done cautiously, as an unreflected adoption may turn out to be inadequate or even detrimental. Additional support for elaborating on the concept may thus be offered by the theoretical foundation and empirical evaluation of ERM, as discussed below.
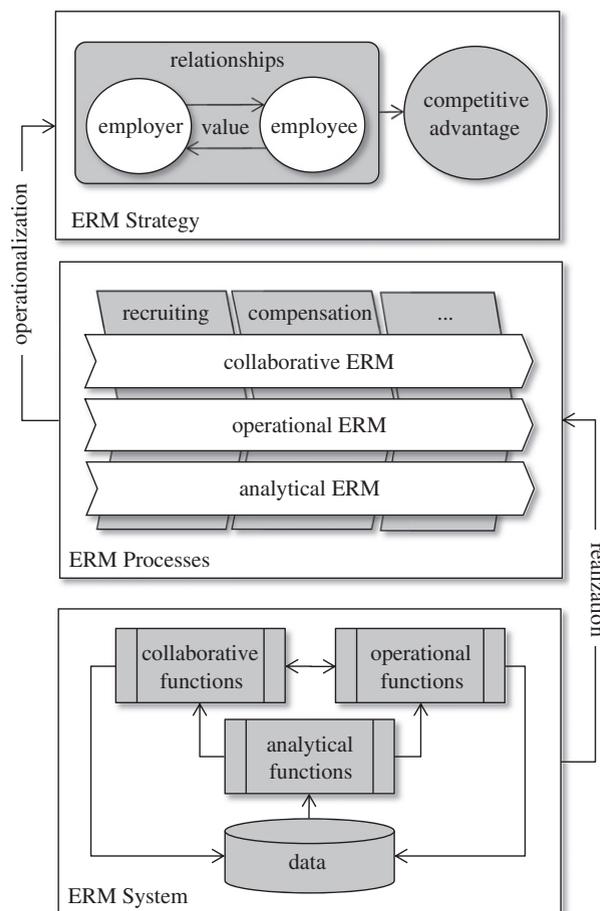

Fig. 4. Graphical synopsis of ERM.

3.2. Foundation

Being mainly a practitioner concept, ERM currently rests on implicit background assumptions rather than on explicit theoretical foundations. Theoretical foundations, however, are needed to provide an overall justification, i.e., a systematic explanation of why and how ERM actually succeeds. It should only be pursued further if there are strong theoretical arguments for ERM. Moreover, theoretical foundations are also necessary for the further development of ERM as demanded above. Concretization of ERM components should be based on theoretical rationales wherever possible to ensure a reasonable future development. Hence, establishing the theoretical foundations of ERM is a second crucial task for the future.

In order to realize this task, theories that directly address human relationships and exchange should be particularly promising. For instance, the *psychological contract theory* (e.g., Cullinane & Dundon, 2006; Rousseau, 1995) should offer an appropriate initial framework for understanding the entire relationship process, since the formation, development, and maintenance, and also the breaching of implicit contracts are explained. Viewing relationships as implicit mutual expectations and obligations between employers and employees, this approach clearly supports the expectation of positive ERM outcomes such as retention, motivation, and performance if mutual promises and expectations are kept and met. The *inducement contribution-theory* (e.g., Barnard, 1938; March & Simon, 1958) could be another basic foundation of ERM. Being basically a theory that explains motivation based on inducements and contributions, positive outcomes – in particular, employee motivation and performance – can be explained. As a consequence, additional statements concerning adequate inducements are to be expected; e.g., inducements should fit directly with individual needs and preferences, comprise "immaterial" components, or match or even exceed employee contributions. The *social exchange theory* (e.g., Blau, 1964; Homans, 1958) can offer a third useful approach. Relationships could be explained as the process of negotiated exchanges between two parties. Since the approach directly explains the initiation, maintenance and withdrawal of relationships as a result of an ongoing subjective cost-benefit analysis in direct comparison with other possible relationships, it should then be possible to explain the (non-)attraction and (non-)retention of employees. In brief, such relationship and exchange-oriented theories should be used to provide a deeper understanding, overall justification and further elaboration of ERM.

The existing research on "*employee–organization relationships (EOR)*" (e.g., Coyle-Shapiro & Shore, 2007; Shore et al., 2004) should offer further valuable foundations (principles) beyond behavioral theories. EORs are usually viewed as an emergent socio-economic phenomenon that research has to investigate and understand. As a consequence, EOR research refers to multiple topics and results such as context, types, or possible outcomes of EOR (e.g., Shore et al., 2004), whereas actively managing relationships so far has not been a major topic. This lack of transferring EOR knowledge into reasonable suggestions for practice is perceived as a clear limitation (Coyle-Shapiro & Shore, 2007). Referring to this, a combination of EOR and ERM research may constitute a mutually valuable step. EOR should be able to complement ERM by offering missing foundational insights, while ERM could in turn complement EOR by offering the missing practice suggestions.

3.3. Evaluation

Given that ERM is currently based on diverse unconfirmed assumptions, the empirical evaluation of these assumptions clearly constitutes the third task of future work. ERM should only be pursued further if there is clear empirical evidence to support it. In particular, the crucial success-related assumptions need confirmation. Constituting the overarching argument for ERM, the basic assumption to be evaluated may be called "proposition of ERM success":

P 1. *ERM leads to mutual value for employees (advanced satisfaction of individual needs) and employers (advanced attraction, retention, motivation and performance of employees).*

ERM success will, however, depend on different moderating influences. First and foremost, the proper implementation of ERM should constitute a precondition for success. As described, proper implementations should comprise a strategy, process, and information system component. These components should be thoroughly integrated ("internal fit") and then customized for a specific situation ("external fit"). Evidently, these two conditions directly correspond to the configuration approach of management; hence, the assumption to be evaluated can be called "configuration proposition of ERM success":

P 2. *Success of ERM depends on the systematic customization and integration of strategy, processes and information systems.*

Another critical point for ERM success is the required consistent individualization, which, on the one hand, constitutes the key principle for creating genuine employee value, but on the other hand, also boosts the realization effort. As described above, ERM assumes that information systems are able to resolve this dilemma mainly by means of the automated mass customization of activities. Hence, the "proposition of individualization automation" should also be evaluated:

P 3. *Success of ERM depends on the potential of information systems for automating individualized activities.*

As a final important point, ERM is a strategy aimed at enlarging the individual organizational share in strained labor markets. This will, however, only work effectively if relevant competitors do not pursue comparable strategies. A broader or even general adoption of ERM will result in a "zero-sum situation". Organizations would then compete for employees on a clearly increased level of effort, but without perceptible improvements. ERM may even turn into a "hygiene factor", i.e., organizations without ERM will suffer from serious competitive disadvantages, whereas organizations with ERM will not be able to realize perceptible competitive advantages. Obviously, this "zero-sum proposition of general ERM success" also needs future consideration:

P 4. *Success of ERM depends on the strategic (re-)actions of relevant competitors.*

Having identified the major underlying assumptions of ERM success, the next step is an empirical test. However, the supposed current lack of practical ERM adoption puts obvious limitations on feasible methods of data ascertainment. Hence, methods that do not rely on larger samples – such as case studies or experiments – have to be employed despite their respective limitations.

4. Conclusions

Employee relationship management constitutes an emerging trend in practice, which so far was characterized by a tension between promises and ambiguity of concept. The current paper hence aimed at the reduction of ambiguity by elaborating a basic outline of the concept and by deriving major implications for future research. Starting with the formation of the concept, it could be clarified that ERM is a response to increased labor market pressures and increased information technology potentials. By subsequently elaborating on the conceptual components ERM could be portrayed as *the strategy of building and long-term maintaining individualized, mutually valuable relationships with selected former, current and potential employees, which is operationalized through collaborative, operational and analytical processes and realized through the collaborative, operational and analytical functionalities of information systems*. As a result, the outline of an interesting and ambitious concept of managing human resources electronically could be presented. ERM hence might well offer a systematic way for HRM to cope with the increasingly strained labor markets of the future. However, before actually recommending the concept for application, future research has to solve the interrelated tasks of conceptual elaboration, theoretical foundation and empirical evaluation of ERM, as elucidated in the discussion of implications. This paper hence might form a starting point for more research and more insights in ERM.

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